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REVIEW OF THE LITERATURE OF THE FAMILY ASILIDAE, ROBBER  
FLIES, AND A DETERMINATION OF THE POTENTIALLY RARE,  
ENDANGERED AND ENDEMIC SPECIES IN THE CALIFORNIA DESERT  
STUDY AREA, December 1978.

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Contract CA-060-CT-8-67

Bureau of Land Management  
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Review of the Literature of the family Asilidae, Robber  
Flies, and a determination of the potentially rare,  
endangered and endemic species in the California

Desert Study Area

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# Contents

Introduction	1
Institutions and Collections where specimens are located	4
Apocleinae (subfamily with genera below)	6
<u>Efferia</u> Coquillett (with groups below)	6
Aestuans	6
Albibarbis	7
Anomala	9
Arida	11
Carinata	14
Pegonias	15
Staminea	16
Tuberculata	20
<u>Furcilla</u> Martin	22
<u>Mallophora</u> Macquart	22
<u>Megaphorus</u> Bigot	23
<u>Proctacanthella</u> Bromley	25
<u>Proctacanthus</u> Macquart	27
<u>Promachus</u> Loew	29
<u>Regasilus</u> Curran	33
<u>Triorla</u> Parks	33
Asilinae (subfamily with genera below)	35
<u>Asilus</u> Linnaeus	35
<u>Machimus</u> Loew	38
<u>Negasilus</u> Curran	45
<u>Neomochtherus</u> Osten Sacken	46
<u>Neocitamus</u> Osten Sacken	50
<u>Polacantha</u> Martin	51
<u>Prolatiforceps</u> Martin	52

Dasygogninae (subfamily with genera below)	53
<u>Blepharepium</u> Rondani	53
<u>Comantella</u> Curran	53
<u>Cophura</u> Osten Sacken	54
<u>Diogmites</u> Loew	64
<u>Hodophylax</u> James	67
<u>Lestomyia</u> Williston	69
<u>Niccoles</u> Jaenicke	74
<u>Omiablautus</u> Pritchard	77
<u>Parataracticus</u> Cole	78
<u>Saropogon</u> Loew	80
Laphriinae (subfamily with genera below)	84
<u>Andrenosoma</u> Rondani	84
<u>Atomosia</u> Macquart	85
<u>Atomosiella</u> Wilcox	86
<u>Cerotainiops</u> Curran	87
<u>Laphria</u> Meigen	91
<u>Pogonosoma</u> Rondani	97
Laphystiinae (subfamily with genera below)	98
<u>Laphystia</u> Loew	98
<u>Zabrops</u> Hull	100
Leptogastrinae (subfamily with genera below)	101
<u>Apachekolos</u> Martin	101
<u>Beameromyia</u> Martin	102
<u>Leptogaster</u> Meigen	103

Ommatinae Wiedemann (subfamily with genera below)	106
<u>Ommatius</u> Wiedemann	106
Stenopogoninae (subfamily with genera below)	107
<u>Ablautus</u> Loew	107
<u>Backomyia</u> Wilcox and Martin	111
<u>Bohartia</u> Hull	112
<u>Callinicus</u> Loew	114
<u>Coleomyia</u> Wilcox and Martin	116
<u>Cyrtopogon</u> Loew	117
<u>Diclonus</u> Loew	124
<u>Dioctria</u> Meigen	125
<u>Dioctria Nannodioctria</u> Wilcox and Martin	128
<u>Eudioctria</u> Wilcox and Martin	129
<u>Eucyrtopogon</u> Curran	131
<u>Heteropogon</u> Loew	133
<u>Holopogon</u> Loew	136
<u>Itolia</u> Wilcox	138
<u>Lasiopogon</u> Loew	139
<u>Metadioctria</u> Wilcox and Martin	141
<u>Metapogon</u> Coquillett	143
<u>Myelaphus</u> Bigot	146
<u>Nannocyrtopogon</u> Wilcox and Martin	147
<u>Ospriocerus</u> Loew	152
<u>Pritchardomyia</u> Wilcox	153a
<u>Prolepis</u> Walker	154
<u>Scleropogon</u> Loew	155
<u>Sintoria</u> Hull	156



## Stenopogoninae Cont'd. (subfamily with genera below)

<u>Stenopogon</u> Loew	157
<u>Stichopogon</u> Loew	171
<u>Wilcoxia</u> James	173
<u>Willistonina</u> Back	174
Trigonimini (subfamily with genera below)	175
<u>Haploporon</u> Engel	175
Literature Cited	176
Appendix, notes on Desert Asilidae and a list by County and locations where endangered species have been found	195
Appendix II. List of Species by Counties and Localities.	205
Numbered Localities in each County as shown on Map.	205
Species taken at each locality in the Counties.	210



### Introduction

The Asilidae is a family of two-winged flies (Diptera) that vary in size from 3 to 50 mm. in length. They are called "robber flies" as the adults are predacious on other insects. They sit on the ground, on rocks, on tips of twigs or on the sides of trees waiting for other insects to fly by. They usually attack in the air, grasp their prey with their powerful legs, pierce them with their sharp mouth parts and inject a fluid which usually renders them motionless in a few minutes. Then they fly to a convenient location where they suck out the contents of their prey. A few insects such as grasshoppers are attacked while moving on the ground. Frequently the prey is larger than the fly and after a struggle at times it gets away. The larvae are reported to be predacious on white grubs in the ground and beetle larvae living in and under the bark of trees. One authority reported that the mouth parts of some Asilid larvae were not strong enough to be predacious.

The Asilidae are world wide in distribution and in North America range from the subarctic regions (Alaska and Canada) to the tropical regions (Panama). About half of the species live in the mountains, forests, river valleys and along the sea shore, while the other half live in the deserts and open plains. Some species found in the highest mountains in California are found nearly at sea level in Alaska. There are about 5,000 species in the World, about 1,000 of which occur in America, north of Mexico. California has one of the richest faunas in the world with over 400 species, about half of which live in the desert areas.

In arid areas the Asilidae can only survive in uncultivated and undisturbed areas. A good example is Los Angeles and Orange Counties, east and south of the mountains. D. W. Coquillett lived here from 1882-1893 and collected and described many flies, sixteen of which were robber flies. Only one of his species of robber flies can be found here now and one of his species has never been found. His other species have been found in Riverside, San Bernardino and San Diego Counties where cultivation of the soil, destruction of the native vegetation and urban growth has not been so extensive.

The desert areas as defined and included here are: all of Imperial County; eastern San Diego County including Mt. Palomar and the Laguna Mts.; eastern Riverside County including the eastern and northern slopes of the San Jacinto Mts.; northern San Bernardino County including the northern slopes of the San Bernardino and San Gabriel Mts. and Cajon Pass; Los Angeles County north of and including the north slopes of the San Gabriel Mts.; Kern County south and east of Lake Isabella; and Inyo and Mono Counties including the eastern slopes of the Sierra Nevada Mts.

The Asilidae are divided into subfamilies which have been changed in this century and are subject to change in the future. Williston (1908) recognized the following four subfamilies: Asilinae, Laphrinae, Dasypogoninae and Leptogastrinae and were in general use for about 40 years. G. H. Hardy (1948) after many years work with the Australian Asilidae reduced the families to two: the Dasypogoninae (with 10 tribes) and the Asilinae (with 3 tribes including the Leptogastrini). Carraewa (1960) adopted this plan for the South American Asilidae and added one tribe to the Dasypogoninae. Hull (1962) in his great work on the World genera used the four subfamilies of Williston (1908) and added a fifth, the Megapodinae. Martin (1968) elevated the Leptogastrinae to family rank and gave them the common name "Grass Flies". Papavero (1973) after his study of the World genera divided the Asilidae into eight subfamilies but left out the Leptogastrinae. His subfamilies are used here plus the Leptogastrinae as its elevation to family rank has not been accepted by several authorities. The subfamilies are listed below and all but the Ommatiinae are found in California. Apocleinae (Lehr 1969), Asilinae (Leach 1819), Dasypogoninae (Macquart (1838), Laphrinae (Macquart 1838), Laphystiinae (G. H. Hardy (1948), Leptogastrinae (Schiner 1862), Ommatiinae (G. H. Hardy 1927), Stenopogoninae (Hull 1962), and Trigoninae (Enderlein 1914).

Institutions and Collections where Specimens are Located

American Entomological Society, Philadelphia, Pa. . . . .	AESP
American Museum of Natural History, New York, N. Y. . . . .	AMNH
Arizona State University, Tempe, Ariz. . . . .	ASU
Bellardi Collection, Turin, Italy . . . . .	BCTI
British Museum of Natural History, London . . . . .	BMNH
California Academy of Sciences, San Francisco, Ca. . . . .	CAS
California Department of Agriculture, Sacramento . . . . .	CDA
California Insect Survey, University of California, Berkeley. CIS	
Canadian National Collection, Ottawa . . . . .	CNC
Cornell University, Ithaca, N. Y. . . . .	CU
Eric M. Fisher, Riverside, Ca. . . . .	EMF
Florida State Collection of Arthropods, Gainesville (plus Charles H. Martin Collection . CHM) . . . . .	FSCA
Hope Museum, Oxford, Eng. . . . .	HM
Joseph Wilcox, Anaheim, Ca. . . . .	JW
Long Beach State University, Long Beach, Ca. . . . .	LBSU
Los Angeles County Museum of Natural History, Los Angeles, Ca. LAQANH	
Museum of Comparative Zoology, Cambridge, Mass. . . . .	MCZ
Museum of Zoology, University of Sao Paulo, Brazil . . . . .	MZUSP
Northridge California State University, Northridge, Ca. . . .	NCSU
Ohio State University, Columbus . . . . .	OSU
Oregon State Department of Agriculture, Salem . . . . .	OSDA
R. H. Painter, Manhattan, Kansas . . . . .	RHP



San Diego Natural History Museum, San Diego, Ca. . . . . SDNHM  
University of California, Davis, Ca. . . . . UCD  
University of California, Riverside, Ca. . . . . UCR  
University of Idaho, Moscow, Id. . . . . UI  
University of Kansas, Lawrence, Kansas . . . . . UK  
United States National Museum, Washington, D. C. . . . . USNM  
Utah State University, Logan, Utah . . . . . USU  
Yale University, New Haven, Conn. . . . . YU



The numbers in parenthesis preceeding each species refers to  
code  
the following of the U. S. Department of Interior, Bureau of Land  
Management for the California Desert Study Area.

- (1) Species is widespread in distribution (throughout the western  
states, the United States, or North America, etc.).
  - (a) Species is widespread to the east of the California Desert,  
but reaches its western limit in the California Desert.
  - (b) The species is widespread in both the deserts and sismontane  
California.
- (2) Species is widespread, but only marginally occurs in the  
California Desert.
- (3) Species is found outside the California Desert, but where it  
occurs in the California Desert it is at the higher elevations.
- (4) Species occurs in the western deserts of the United States.
- (5) Species occurs in the Sonoran deserts.
- (6) Species occurs in the Mojave Desert.
- (7) Species is endemic to the California Desert.

Subfamily: Apocleinae Lehr (1969)

Genus *Efferia* Coquillett (1893)

Efferia Coquillett, 1893: 175.

Type-species, candida Coquillett.

Erax authors, not Scopoli (1763).

Nerax Hull, (1962): 476.

Type-species, Asilus aestuans Linnaeus.

Hine (1919) divided the species into eight groups that are used here except that the names of two groups have been changed to conform with the present knowledge.

Aestuans Group: Hine 1919: 120.

(?) aestuans(Linnaeus), 1763: 1007 (Asilus).

Type ?. Pennsylvania, ?.

Geographic range: USA (Arizona to the east coast and in most of the eastern states).

California records: none, but might be found in the desert areas.

(7) species, new

Geographic range: USA (Arizona and California).

California records:

Riverside Co.: Pinto Wash Well, Joshua Tree N. M., VII-13 '63

(E. L. Sleeper) blacklight, CSUEB.

San Bernardino Co.: Kelso Dunes, VII-18 '66 (Fred G. Andrews) UCR.

ALBIBARBIS Group: Martin 1962: 248. (Barbatus Group, Hine 1919: 108).

(1) albibarbis (Macquart), 1838: 115 (Erax).

Type ?, N. A., Paris.

barbatus (Hine) 1919: 109 (Erax), not Fabricius (1805).

albibarbis Martin, 1962: 251, (type badly damaged in Paris).

Neotype ♂, Bainbridge, Ohio, USNM.

Geographic range: Canada (southern); USA (widespread); Mexico, Central America and Venezuela.

California records: Widespread up to 6000' elevation. Many desert records in Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino and San Diego Counties: April to August. See p. 7a.

(1a) bicolor (Bellardi), 1861: 47 (Erax).

Type ♂, Mexico, Bellardi Coll., Turin.

Geographic range: USA (California to Mississippi); Mexico (Chihuahua). These specimens might be distinct from Bellardi's species as most of his material came from the area of Mexico City to Veracruz.

California records: Calaveras and Lassen Counties, but most records from the desert areas of Imperial, Inyo, Los Angeles, Riverside, San Bernardino and San Diego Counties; May to September). See p. 7b.

(2) peralta Wilcox, 1966: 115.

Types ♂♀, Peralta, Orange Co., Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties. Mainly a hill species from west of the mountains but with following records from desert areas.

Imperial Co.: Calipatria, V; Calexico, IV; Gordons Well, IV, VIII; Gray's Well, VII; Palo Verde, IV, VII, X; Potholes, IV; E. Salton Sea, VI; Westmoreland, V; Winterhaven, VII.

Inyo Co.: Antelope Spgs., VIII; Death Vly., IV, Furnace Crk. III; Deep Spgs., VII, Lk., VI, VII; Little Lk., VI, VII; Olancho, VIII; Panamint Spgs., VII, Mts., VII; White Mts., VII.

Kern Co.: Walker Pass, VII.

Los Angeles Co.: Big Rock Crk., VII, VIII; Lancaster, VI, VII; Mint. Cyn., VII; Palmdale, VIII.

Riverside Co.: Andreas Cyn., IV; Blythe, V, VI, VIII, 18 mi. W., IX; Cathedral City, VII; Coachella, V; Deep Cyn., IV to IX; Hopkins Joshua Tree N.M., Cottonwood Spgs., Fried Liver Wash, Pleasant Vly., Squaw Tank, Up. Covington Flat, Well, IV; Indian Wells, IV; Indio, IV to VII, Pushawalla Palms, V; <sup>X to IX, 5000 ft.</sup> Magnesia Cyn., VI to VII; Mecca, VI to VIII; Palm Cyn., VII; Palm Springs, V to X; Ripley, VI; Salton Sea N., V; Thermal, IV, VI; Thousand Palms, V; Vidal, 16 mi. S., VII; White Water, V, VII, IX, X.

San Bernardino Co.: Cajon Pass, VI, VII; Cushenbury Spgs., V, IX; Deep Crk., VI; Desert Spgs., VI; Kramer Hills, V; Mojave R.-Apple Vly., VI; Morongo Vly., IX; Newberry Spgs., VII; Pioneertown, VII; Victorville, VII; Yermo, V; Yucca Vly., X.

San Diego Co.: Agua Caliente Spgs., VIII; Anza S. P., IV, X; Borrego, IV, V, VII, IX; San Felipe Crk., IV, V; Scissors Crossing, VI, VII; Yaqui Well, IX.



Imperial Co.: 13 mi. S. W. Palo Verde, VIII-1 '67 (J. M. Davidson, M. A. Cazier) ASU.

Inyo Co.: 3 mi. S. Olancho, VIII-6 '48 (P. D. Hurd, J. W. MacSwain) CIS.

Los Angeles Co.: 2 mi. N. Lancaster, IX-8 '56 (J. A. Chemeak) CIS.

Riverside Co.: Cathedral City, VII-16 '50 (B. Adelson, J. W. MacSwain) CIS; Coachella, V-21 '28 (E. C. Van Dyke) CAS; Deep Cyn.,

IX-5 '63 (E. I. Schlinger) UCR; Indio, VIII-5 '35 (R. H. Beamer) UK; Joshua Tree N.M., Pleasant Vly, VII-8 to VII-31, CSULB, EF; Magnesia Cyn., VII-21, 22 '52, '56 (J. J. Menn) CIS; Palm Springs,

VII-2 '36 (P. H. Timberlake) UCR; Pinyon Flat, VI-27 '56 (J. J. Menn) CIS.

San Bernardino Co.: Joshua Tree N. M., Lower Covington Flat, VII-8 '61 (E. L. Sleeper) CSULB; Victorville, VIII-1 '35 (R. H. Beamer) UK; Yermo, VII-2 '49 (R. van den Bosch) CIS.

San Diego Co.: Borrego, Palm Cyn., VI-16 '56 (M. E. Irwin) UCR; San Felipe Crk., IX-1, 10 '38 (P. H. Timberlake) UCR.



parvula Wlx, cont'd.

Imperial Co.: Coyote Wells, X-2 '47, UCR.

San Bernardino Co.: Joshua Tree N. M., V-18 '46 (A. L. Melander)  
Flat (Riverside Co.) to VII-31  
USNM. L. Covington Wash and Smith Water Wash, VII-6 '60 (M. Knox,  
E. Sleeper) CSULB.

San Diego Co.: Jacumba, VIII-12 '35 (Jack Beamer, Jean Russell)  
UK; 3.2 mi. E. Julian, VIII-7 '65 (Saul Frommer) UCR.

vertebrata (Bromley) 1940: 14 (Erax).

Type ♂, Warners Springs, Cal., ♀, Idyllwild, Cal., UK.

Geographic range: USA (California). Bromley (1940) also reported  
from Arizona but <sup>h</sup> record is questioned.

California records: Fresno, Inyo, Kern, Lake, Los Angeles,  
Madera, Mariposa, Merced, Mono, Riverside, Sacramento, San Benito, San  
Bernardino, San Diego, Tulare, Tuolumne, and Ventura Counties. Mainly  
a mountain species with desert areas as follows.

Inyo Co.: Bigpine, VIII-5 to 12 '57 (Itol J. and J. Wilcox) JW;  
Independence, VIII-13 '57 (Itol J. and J. Wilcox) JW; 6 mi. S. Lone  
Pine, VIII-20 '60 (E. I. Schlinger) UCD; Westgard Pass, 7200', VII-26  
'62 (C. D. MacNeill, D. C. Rentz) CAS.

San Bernardino Co.: Big Bear Lake, Hanna Flats, VIII-15 '51  
(Guy F. Toland, J. Wilcox) JW, Horse Thief Flats, IX-18 '48 Guy F.  
Toland, J. Wilcox) JW; Mojave R. and Deep Crk., VIII-14 '36 (A. J.  
Basinger) on rocks and sand in river wash, CAS.

San Diego Co.: Warner Springs, VII-28 '38 (Jean Russell) UK.

ANQMALA Group Hine 1919: 119.

(5) azbeci Wilcox 1966: 128.

Types ♂♀, Aztec, Arizona, CAS.

Geographic range: USA ( Arizona and California).

California records:

Imperial Co.: 11 mi. W. Calexico at foot of Mt. Signal, X-10 '76  
(John D. Pinto) UCR.

Riverside Co.: 9 mi. W. Blythe, X-11 '58 (J. W. MacSwain) CIS,  
10 mi. W., X-12 '54 (J. C. Hall) UCD; Hopkins Well, X-11 '58 (R. W.  
Thorp) CIS; 5 mi. E. Mecca, X-3 '76 (John D. Pinto) UCR.

~~axixixWilcox1966~~

(5) candida (Coquillett 1893: 173.

Types ♂♀, Los Angeles Co., Cal., USNM.

Geographic range: USA (Arizona and California); Mexico (Baja  
California N. and Sonora).

California records: Imperial, Inyo, Kern, Los Angeles, Riverside,  
San Bernardino and San Diego Counties; April to September. Many records  
mainly from desert areas. See pp. 9a-9b.

(2) davisi Wilcox 1966: 132.

Types ♂♀, 12 mi. N. Sasabe, Arizona, CAS.

Geographic range: USA (Arizona, California and New Mexico)

California records:

Imperial Co.: Palo Verde, X-28 '67 (S. A. Gorodenski, M. A. Cazier)  
ASU.

San Diego Co.: 3 mi. N. W. and 13 mi. E. Borrego Spgs., X-7. '67  
(G. L. Lytle, S. A. Gorodenski, M. A. Cazier) ASU.

Imperial Co.: 4.7 mi. E. Bard Corner, IV-14 '49 (P. H. Timberlake) UCR; Fig Tree <sup>0</sup>J<sub>A</sub>hn's, IV-5 '31 (A. C. Brousse) CDA; Glamis, 10.1 mi. W., IV-3 '60 (P. H. Timberlake) UCR, 1 mi. W., IV-25, VI-13, X-1 '65 (G. R. Ballmer, M. E. Irwin, R. E. Somerby) UCR, 5 mi. W., IV-22 '68 (Fred G. Andrews) UCR; Kane Spgs., VIII-28 '47 (J. Wilcox) JW; 10 mi. S. Oasis, IX-6 '47 (J. Wilcox) JW; Palo Verde, IX-15 '61 (P. D. Hurd) EIS; Salton Sea Beach, IV-30 '53 (J. C. Hall) UCD; Westmoreland, V-24 '32 (H. Gentry) CAS.

Inyo Co.: Death Vly., Furnace Crk., IV-27 '56 (R. M. Bohart) UCD; Little Lk., VII-14 '60 (H. K. Court) UCD; White Mts., Westgard Pass, VII-5 '59 (J. Wilcox) JW.

Los Angeles Co.: 6 mi. W. Lancaster, V-24 '67 (S. M. Hogue, R. L. Penrose) UI; 8 mi. N. <sup>L</sup>lano, VII-2 '58 (J. C. Hall) UCD; Mint Cyn., VII-31 '35 (E. I. Beamer, Jean Russell) UK; Palmdale, VIII-6 '62 (Sugarman) UCR; Vincent, VIII-10 '60 (G. H. Nelson) FSCA.

Riverside Co.: Coachella Vly., V-9 '27, VI-21, 22 '28 (E. C. Van Dyke) CAS; Deep Cyn., IX-10 '64, IX-24 to X-9 '63 (M. E. Irwin, E. I. Schlinger) UCR; Devil's Cyn., V-7 '32 (H. Gentry) CAS; 4 mi. E. Edom, IV-17 '37 (P. H. Timberlake) UCR; Indio, IV-22, V-7 '41, IX-19 '46 (A. F. Howland, J. Wilcox) JW, VIII-29 '58 (J. C. Hall) UCD; <sup>Joshua Tree N.M., Pleasant Vly, Pinto Wash, VIII-29, CSULB, EF;</sup> Palm Springs, V#21 to 31 '43, V-30 '42, VIII-9 '42, IX-6 '47 (Guy F. Toland, J. Wilcox) JW, V-22 '17 (E. P. Van Duzee) CAS, VII-20 '34 (C. M. Dammers) UCR; Salton Sea, V-30 '30 (P. H. Timberlake) UCR; White Water, VI-19 '49 (J. Wilcox) JW, VII-9 '50 (L. W. MacSwain) small Buprestid prey, CIS, X-28 '34 (A. J. Basinger) CAS.

San Bernardino Co.: 11 mi. S. Adelanto, VIII-5 '57 (J. Wilcox) JW; Cajon, VII-17 '56 (R. M. Bohart) UCD, Pass, VI-24 '49 (H. E. Cott) UCD, 4 mi. N. Jct., VII-1, 4 '58 (J. C. Hall) UCD; Cronise Vly., V-5 '60 (F. D. Parker) UCD; Joshua Tree N. M., Pinto Wash Well, VIII-18 '62 (E. L. Sleeper) CSULB; Kelso Dune, VII-18 '66 (Fred G. Andrews) UCR; Lucerne Vly., VII-27 '47 (Guy F. Toland) JW; Mojave R. at Deep Crk., VIII-14 '36 (E. G. Linsley) CIS; 2 mi. N. E. Twentynine Palms, V-24, 25 '66 (J. Wilcox) JW Apiocera prey; Yermo, V-28 '40 (M. Cazier, W. Reeves, P. C. Ting) JW.

San Diego Co.: Agua Caliente Spgs., VIII-26 '47 (J. Wilcox) JW; 6 mi. E. Banner, VI-26 '63 (J. Powell) CIS; Borrego, IV-5 '40 (R. M. Bohart) UCD, V-16 '48, IX-24 '45 (Grace H. and John L. Sperry) USNM, 3 mi. E. Borrego Spgs., IV-15 '62 (D. J. Burdick) CSUFresno; 3 mi. N. Scissors Crossing, IX-8 '55 (J. C. Hall) UCR.



(2) halli Wilcox 1966: 134.

Types ♂♀, Oak Grove, Cal., CAS.

Geographic range: USA (California).

USA  
California records: ~~River~~side, San Bernardino and San Diego  
Counties). Mainly a mountain species adjacent to desert areas.

Riverside Co.: Anza, VII-5 '56 (B. M. Bartosh) UCR.

San Bernardino Co.: 4 mi. N. Cajon Pass, VII-1 '58 (J. C. Hall)  
UCR.

San Diego Co.: Oak Grove, VI-1 '41 (Thelma, Edith, Dan F. and Guy  
F. Toland, J. Wilcox) JW.; Warner Springs, VII-4 '62 (J. Wilcox) JW,  
9 mi. S., VII-8 '56 (R. C. Bechtel) UCD and VII-4 '56 (H. W. Michalk)  
CDA.

(5) pernicis Coquillett, 1893: 175.

Types ♂♀, Los Angeles and San Diego Counties, Cal., USNM.

Geographic range: USA (Arizona, California and Utah).

California records: Imperial, Inyo, Los Angeles, Orange,  
Riverside, San Bernardino and San Diego Counties; April to August.  
Mainly a desert species but invades the coastal areas of the southern  
counties, many records. See p. 10a.

(2) tricella (Bromley) 1951: 32 (Erax).

Type ♂. Buckeye, Arizona, ♀, Salome, Arizona, USNM.

Geographic range: USA (Arizona, California and New Mexico).

California records:

Imperial Co.: 1 mi. W. Glamis, IX-26 '64 (M. E. Irwin) UCR;  
2 mi. S. Palo Verde, VII-16 '62 (P. D. Hurd) 251.1, prey Saropogon  
ochawiki Wilcox, Tamoxis palliata, CIS.



Imperial Co.: Bard, V-28 '52 (D. Cox) CIS; 10 mi. W. Calipatria, V-27 '56 (T. R. Haig) UCD; Niland, V-22 '56 (T. R. Haig) UCD; Palo Verde, 245', VII-11 '66 (J. M. Davidson, M. A. Cazier) ASU, VIII-9 to 27 '46 (W. F. Barr, P. D. Hurd) prey treehopper, Tamarix gallica, CIS, 10 mi. S., IX-8 '67 (S. C. Williams, M. A. Cazier) ASU; Seeley, VIII-10 '62 (D. A. Kilgore) CDA; Westmoreland, V-24 '32 (H. Gentry) CAS; Winterhaven, IV-29 '61, LACMNH.

Riverside Co.: Blythe, V-7 to VII-20 '47, VI-9 to VIII-19 '45, VII-6 to VIII-26 '46 (W. F. Barr, P. D. Hurd, E. G. Linsley, J. W. MacSwain) CIS, VII-5, 15 '38 (P. H. Timberlake) UCR, VIII-15 '50 (L. W. Isaak) UCD, VIII-19 '38 (G. P. Engelhardt) JW, IX-1 '60 (K. L. Japport) Argon light, CDA, 13 mi. N., VII-26 '66 (J. M. Davidson, M. A. Cazier) Atriplex lentiformis (Torr.) Wats., ASU.; Coachella, V-9 '27, Vly., V-17 to 25 '28 (E. C. Van Dyke) CAS, VI-11 '30 (D. G. Hall) JW; Indio, V-25 '48 (J. Wilcox) JW, VII-19 (29 (D. G. Hall) JW; 4 mi. E. Mecca, VII-16 '56 (M. Wasbauer) Croton californica, CIS; Palm Springs, VI-22 '45, CIS; Ripley, VIII-14, 16 '46 (W. F. Barr) sweeping alfalfa, CIS; Pushawalla Palms, nr. Indio, V-20 '65 (H. Ewing) UCR; 16 mi. S. Vidal, VII-11 '66 (J. M. Davidson, M. A. Cazier) ASU; White Water, IX-17 '48 (Guy F. Toland) JW.

San Bernardino Co.: Morongo, IX-28 '44 (A. L. Melander) USNM; Needles, VI-4 '38 (P. H. Timberlake) UCR; Yermo, V-28 '40 (M. Cazier, W. Reeves, P. C. Ting) CAS.

San Diego Co.: Borrego, IV-26 to V-6 '46 (John L. Sperry) USNM.  
 Inyo Co.: Death Vly., Eagle Borax Works, IV-18 '65 (R. L. Westcott) UI,  
 Furnace Crk., IV-1 '53 (J. W. MacSwain) CIS, Nevares Spgs., IV-17 '65 (W. F. Barr) UI; Deep Spgs., VII-5 '57 (J. Wilcox) JW, VII-11, 16 '53 (H. Nakakihara) UCR.

ARIDA Group Hine: 1919: 115.

(6) arida<sup>us</sup> (Williston) 1893: 254 (Erax).

Type 2, Death Valley Expedition, Cal., USNM.

Geographic range: USA (Arizona, California and Utah).

California records:

Inyo Co.: Death Valley Expedition, IV-'91, USNM.

Kern Co.: Boron, IV-3 '59 (E. G. Linsley, J. W. MacSwain)

Correopsis californica, CIS; Inyo Kern, III-14 '41 (T. Aitken) CAS;

Mojave, III-23 '57 (G. E. and R. M. Bohart) IOD, 28 mi. N., III-24 '68

(S. M. Hogue, R. I. Penrose) wild bee prey, UI; Mojave Desert, Rogers  
Dry Lake, III-16 '35 (A. L. Melander) USNM.

Los Angeles Co.: Littlerock, III-18 '57, III-23 '41 (Josephine  
and Mary V. Lee, M. W. Stone jr., Dan Toland, Itol J., J. Jr., and  
J. Wilcox) JW; Llano, III-18 '57 (J. Wilcox) JW; Lovejoy Buttes,  
Mojave Desert, II-16 '45 (C. Henne) LACMNH; Palmdale, III-18 '57  
(J. Wilcox) JW.

San Bernardino Co.: Adelanto, IV-6 '46, CIS, III-17, IV-7 '57  
(C. H. Martin, J. Wilcox) CHM, JW; Cima, <sup>(not shown on map)</sup> III-27 '32 (Edmand Jaeger)  
CIS, 16 mi. S. W., 5000', IV-2 '66 (R. W. Brown) CAS; 6 air mi. S.  
Ivanpah, IV-16 '64 (R. L. Langston) CIS; Kramer ~~xxx~~, IV-30 '53,  
IV-25 '57 (J. Powell, G. I. Stage) CIS, Jct., IV-30 '53 (G. A. Marsh)  
CIS, 3 mi. S., IV-6 '66 (R. L. Brumley) UCD; New York Mts., 6 air mi.  
S. Ivanpah, IV-16 '64 (D. D. Linsdale) CIS, Kingstone Cyn., 5400-5800',  
IV-20 to 22 '60 (J. M. and S. N. Burns) CIS; Oro Grande, IV-15 '38  
(T. Aitken) CAS; Providence Mts., IV-10/16 '49 (B. Weber) LACMNH;  
Salt Wells, 7 mi. W., III-31, IV-1 '59 (R. W. Thorpe, G. I. Stage,  
J. R. Powers) CIS; Yermo, IV-12, 25 '66 (J. Wilcox) JW.

(2) basingeri Wilcox, 1966: 144.

Types ♂♀, Pyramid Lake, Nevada, CAS.

Geographic range: USA (California and Nevada).

California records: Inyo, Lassen and Modoc Counties.

Inyo Co.: Antelope Springs, VIII-24 '60 (J. W. MacSwain) CIS;

Deep Springs, IX-10 '56 (J. A. Chemsak, P. D. Hurd) Chrysothamnus, CIS.

(?) harveyi (Hine) 1919: 115 (Erax).

Types ♂♀, Vernon, British Columbia, OhioSU.

Geographic range: Canada (British Columbia); USA (California, Idaho, Oregon and Washington).

California records:

Siskiyou Co.: Gazelle, IX-22 '51 (Jack Hall, E. I. Schlinger) UCD.

A fall species of the Great Basin that might be found in eastern Mono or Inyo counties.

†  
(7) Eolandi Wilcox 1966: 150.

Types ♂♀, Independence, Cal., CAS.

Geographic range: USA (California).

California records:

Inyo Co.: 5 mi. N. Bigpine, IX-6 '58 (A. D. Telford) UCD;  
Independence, X-26 '63 (J. R. Birchim) CAS, Grays Mdw., X-9 '63 (Itol J. and J. Wilcox) JW; 6 mi. W. Lone Pine, IX-19 '65 (J. Wilcox) prey Polacantha composita (Hine), JW.

Kern Co.: 3 mi. N. E. Mojave, X-6 '67 (J. W. MacSwain) CIS;  
Walker Pass, X-8 '57 (J. C. Hall) UCD.

Mono Co.: Benton, 5600', IX-1 '37, IX-5 '36 (E. G. Anderson) USNM,  
Insp. Sta., X-20 '64 (W. E. Simonds) CDA; Mono Lk., IX-13 '63, N. side,  
IX-18 '65, and 2 mi. N., IX-18 '65 (Itol J. and J. Wilcox) JW.

San Bernardino Co.: Cushenbury Springs, IX-18 '48, X-4 '63  
(Guy F. Toland, J. Wilcox) JW; 10 mi. N. W. Landers, X-11 '67  
(J. Wilcox) JW, 6 mi. E. Lucerne Vly, XI-7 '78 (Eric Fisher) EF



CARINATA Group, Hine 1919: 130.

(5) caliente Wilcox, 1966: 153.

Types ♂♀, Agua Caliente Springs, Cal., CAS.

Geographic range: USA (Arizona, California and Nevada); Mexico (Baja California N.).

California records:

Imperial Co.: Coyote Wells, III-28 '60 (S. M. Hogue, R. L. Penrose) UI; 5 mi. S. Fish Springs, III-25 '39 (P. H. Timberlake) UCR.  
Riverside Co.: 10 mi. E. Desert Center, IV-13 '41 (J. Wilcox) JW; Edom, IV-17 '37 ~~{RxxxxxTimberlake}~~WRR (E. G. Linsley) CIS; Lone Palm Cyn., III-31 '60 (P. H. Timberlake) UCR; Palm Desert, I-25 '49 (Grace H. and John L. Sperry) USNM, IV-11 to 13 '50 (P. D. Hurd) CIS, nr., IV-24 '50 (C. D. MacNeill) CIS; 3 mi. N. W. Palm Springs, IV-24 '64 (W. F. Barr) UI; Salton Sea, III-24 '49 (R. A. Flock) UCR; 4.5 mi. E. Thousand Palms, IV-3 '49 (P. H. Timberlake) UCR.

San Bernardino Co.: Cronise Vly., IV-3 '53 (J. W. MacSwain) CIS; 22 mi. N. Manix, IV-26 '58 (P. D. Hurd, R. O. Schuster) Larrea, CIS; Morongo Vly., IV-25 '57 (R. R. Snelling, M. D. Stage) CIS.

San Diego Co.: Agua Caliente Springs, III-31 to IV-3 '42 (Don Meadows, W. Schweikhard, J. Wilcox) JW; Campo, 1 mi. W., III-31 '60 (P. H. Timberlake) UCR; 4 mi. S. E. Dry Lake (Ocotillo Wells), IV-3, 4 '42 (W. Schweikhard, J. Jr. and J. Wilcox) JW.

POGONIAS GROUP, Wilcox 1966: 163. (Caudatus Group, Martin 1962: 147.

Rufibarbis Group, Hine 1919: 136).

(?) frewingi Wilcox, 1966: 169.

Types ♂♀, Antelope Mt., Harney Co., Oregon, CAS.

Geographic range: Canada (Alberta); USA (California, Nevada, Oregon, Utah and Washington).

California records:

Modoc Co.: Lava Beds N. M., VIII-24 '40 (T. Aitken) CAS.

(2) mortensoni Wilcox, 1966: 173.

Types ♂♀, 2 mi. N. E. Portal, Arizona, CAS.

Geographic range: USA (California, Arizona and New Mexico).

California records.

San Bernardino Co.: Colorado River opposite Parker, Arizona,

October (Eric M. Fisher) EMF. Definite localities to be added later.

Riverside Co.: Joshua Tree N.M., 5 mi. N. Cottonwood Spgs., XI-11, CSULB, EF

STAMINEA Group: Hine 1919: 139 (Stramineus Group Hine, misnomer).

(2) benedicti (Bronley) 1940: 15 (Erax).

Types ♂, Winslow, Arizona, ♀, Santa Rita Mts., Arizona, UK.

Geographic range: USA (Arizona, California, Colorado, Idaho, Nevada, Oregon, Utah, and Washington); Mexico (Baja California N.).

California records: Imperial, Inyo, Fresno, Kern, Lassen, Los Angeles, Modoc, Mono, Riverside, San Bernardino and San Diego Counties. Many records in desert areas, mainly April and May but other records to October. See p. 16a.

(1b) cane (Hine) 1916: 22 (Erax).

Types ♂♀, Claremont, Cal., OhioSU.

Geographic range: USA (Arizona, California, Colorado and Utah.

California records: Colusa, Contra Costa, Fresno, Inyo, Kern, Kings, Los Angeles, Madera, Monterey, Riverside, San Bernardino, San Luis Obispo, Santa Barbara, Stanislaus, Ventura and Yolo Counties).

Inyo Co.: Argus Mts., VI-4 '39 (R. M. Bohart) UCD.

Kern Co.: E. B. Last Chance Mine, E. Hwy. 6, 9 mi. N. Ricardo, IV-10 '60 (C. A. Toschi) CIS; Mojave, IV-26 '50 (R. G. Horwell) and VI-1 '17, CAS, Desert, V-'37 (R. H. Smith) CAS; Randburg, V-1 '52 (R. M. Bohart) UCD; Walker Pass, VI-18 '63 (J. Wilcox) JW; Wheeler Ridge, V-13 '53, LAONHM.

Los Angeles Co.: 2.4 mi. N. Desert Springs, V-29 '53 (P. H. Timberlake) UCR; Littlerock, IV-15, V-15, 18 '62 (S. Nakagawa, E. Sandor, M. Thompson) NCSU, V-10 '41, V-13, 22 '42, V-15 '53 (J. C. Elmore, Guy F. Toland, Itol J. and J. Wilcox) JW, 1 mi. W., V-13 '56 (E. G. Linsley, J. W. MacSwain) CIS; Llano, VI-1 '57 (W. E. Simonds) ODA, 8 mi. E., V-14 '52 (P. H. Timberlake) UCR; Lovejoy Buttes,

See p. 17

Imperial Co.: 10 mi. S. Palo Verde, IX.

Inyo Co.: Antelope Spgs., VI, VIII; Deep Spgs., IX, 13 mi. S., VIII; Olancho, VI; Panamint, VII, Mts. V, Parker's Camp, 5000', VII; Westgard Pass, VI to IX; White Mts., Cedar Flats IX, Wyman Cyn., VII.

Kern Co.: Walker Pass, VI.

Los Angeles Co.: Desert Spgs., VIII; Littlerock, IX; Palmdale, IV, VI.

Riverside Co.: Andreas Cyn., IV; Coachella, V, VI; Deep Cyn., X;  
~~Joshua Tree N.M.~~ <sup>Joshua Tree N.M., Pleasant Vly., VI-1 to VIII-2, CSDLB, EF;</sup>  
~~Edom, IV;~~ <sup>Edom, IV;</sup> McCoy Spg., IV; Mecca, IV; Palm Springs, III-V, IX; Tahquitz Cyn., VI; Whitewater, V, IX.

San Bernardino Co.: Atolia, VI; 13 mi. W. Barstow, VI; Clark Mts., VII; Cushenbury Spgs., VI, IX; Deep Crk., V; 2.5 mi. E. Desert Spgs., VII; 25 mi. S. Ivanpah, X; Lucerne Vly., VI, VII; Morengo Vly., IV, V; Needles, VIII; Phelan, VII; Twentynine Palms, IX; Victorville, VI; Windmill Sta., IV.

San Diego Co.: Agua Caliente Spgs., VIII; Borrego, IV, V, XI, Culp Cyn. IV, Palm Cyn., IV, VI, Tub Cyn., IV, V; La Puerta Vly., X; San Felipe Crk., IX.



cana (Hine), cont'd.

V-10 '44 (P. H. Timberlake) UCR; Palmdale, V-4 '57 (Itol J. and J. Wilcox) JW, VI-22 '49 (L. W. Isaak) UOD; Red Rock Cyn., V-1 '58 (R. M. Bohart) UOD.  
*Joshua Tree N.M., 0.7 mi. N. Squaw Tank, V-15, CSULB, EF,*  
 Riverside Co.: Pleasant Vly., Dry Lake, VI-14 '63 (P. M. Estes)  
 UCR.

San Bernardino Co.: Adelanto, V-14 '57, V-31 '48 (C. H. Martin, J. Wilcox) CHM, JW, 5 mi. N., V-30 '48 (Guy F. Toland, J. Wilcox) JW;  
*4 mi. E. Boron, V-7 '68 (J. W. Stubblefield) UCR;*  
 13 mi. W. Barstow, VI-21 '42 (J. Wilcox) JW; <sup>^</sup> Cajon Pass, V-20 '51 (E. I. Schlinger, E. J. Taylor) UCR, 2 mi. W., VI-7 '56 (J. C. Hall) UOD; Deep Crk., V-16 '37 (P. H. Timberlake) UCR; Hesperia, V-19 '55 (A. W. Levi) USU; Kramer Hills, V-21, VI-1 '53 (P. D. Hurd, R. A. Marsh, R. Schuster) Larrea, Malacothrix sp., CIS; Joshua Tree, V-12 '57 (R. F. Ernest) LACMNH; Mojave R. nr. Victorville, V-28 '32 (P. H. Timberlake) UCR; 2 mi. W. Phelan, VI-7 '55 (J. C. Hall, E. I. Schlinger) Tachinid prey, UCR; Summit Cajon Pass, V-15 '36 (J. Corcoran); Victorville, V-30 '44 (A. L. Melander) USNM, V-31 '41 (Dan and Guy F. Toland, J. Jr. and J. Wilcox) JW, 3 mi. S. W., V-9 '48 (P. H. Timberlake) UCR; Yermo, V-23 '40 (G. E. Bohart) UOD, V-31 '41 (J. Wilcox) JW.

(5) coquilletti (Hine) 1919: 149 (Erax).

Types ♂♀, San Diego Co., Cal., USNM.

Geographic range: USA (Arizona and California).

California records: Imperial, Inyo, Riverside, San Bernardino, and San Diego Counties. March to May, all desert localities. See pp. 18a, 18b.

deserti Wilcox, 1966: 199.

Types ♂♀, 10 mi. E. Desert Center, Cal., CAS.

Geographic range: USA (Arizona, California, Nevada and Utah).

California records: Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino and San Diego Counties. March to June, all desert localities except part of Los Angeles County. See pp. 18c, 18d.

(2) ehrenbergi Wilcox, 1966: 203.

Types ♂♀, 35 mi. E. Ehrenberg, Arizona, CAS.

Geographic range: USA (Arizona and California).

California records:

Imperial Co.: 5 mi. N. E. Ogilby, IV-24 '55 (David Cox) ASU;  
3 mi. S. Palo Verde, IV-18 '49 (P. D. Hurd) CIS.

(1b) inflata (Hine) 1911: 310 (Erax).

Types ♂♀, Los Angeles Co., Cal., Ohio SU.

Geographic Range: USA (California).

California records: Kern, Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura Counties. Most records west of the mountains.

Los Angeles Co.: Big Rock Camp, V-30 '59 (J. A. Honey) LACANH;  
Mint Canyon, VII-31 '35 (E. I. Beamer) UK; Tapia Park, IV-12 '62,  
V-22 '60 (D. Gibo) NCSU.  
San Bernardino Co.: Joshua Tree N.M., Lower Covington Flat, V-28, CSULB, EF.  
See p. 19.

Imperial Co.: Hot Mineral Spa, III-30 '59 (Menke & Stange) LACMNH.

Inyo Co.: 12 mi. S. Death Wly. Jct., IV-12, 14 '65 (D. L. Coates, R. L. Penrose, E. L. Westcott) UI; Panamint Spgs., V-6 '61 (P. M. Marsh) UCD, 5 mi. N. W., V-8 '58 (L. A. Stange) UCD.

Riverside Co.: Andreas Cyn., III-3, IV-25 '56 (R. M. Bohart, J. C. Hall) UCD; Cathedral City, II-22 '60 (Fred G. Andrews) #7, UCR; Deep Cyn., III-9 '64, III-28, IV-4 '63 (M. E. Irwin, E. I. Schlinger) *Joshua Tree N.M., Pinyon Wells, Squaw Tank, Pleasant Wly., III-3 to VI-13, CSULB, EF;* UCR, IV-6 '63 (R. L. Langston) CIS; <sup>^</sup> McCoy Spgs., IV-8, 9 '63 (J. C. Hall, E. I. Schlinger) UCR; Palm Springs, III-5 '68 (J. Wilcox) JW, III-14 to 25 '16, III-31 '63 (A. M. Barnes, C. L. Fox) CIS, CAS, III-28 '37 (G. E. and R. M. Bohart) UCD, IV-12 '41 (Itol, J. Jr., and J. Wilcox) JW, 10 mi. E., IV-10 '45 (J. Wilcox) JW, <sup>C</sup> Rhine Cyn., IV-9 '61 (R. L. Westcott) LACMNH; 12 mi. S. W. Rice, IV-21 '51 (C. D. MacNeill) CIS; Thousand Palms, III-7 '57, III-9 '41, IV-4 '64 (R. M. Bohart, J. C. Hall) UCD, III-25 '66 (S. and S. Frommer) UCR, III-30 '58 (D. D. Linsdale) CIS, Cyn., IV-5 '66 (J. C. Hall) UCR; White Water, III-18 '60 (R. M. Bohart) UCD, IV-17 '48, V-7 '41 (J. Wilcox) JW, 10 mi. E., III-18 '60 (R. M. Bohart) UCD.

San Bernardino Co.: Amboy Crater, IV-24 '60 (J. Powell, J. R. Powers) CIS, 13 mi. E., IV-12 '58 (J. W. MacSwain) CIS; Baker, IV-20 '69 *lava flows S. of, IV-24 '71 (M.E. Irwin, T.D. Pinto) UCR,* (Fred G. Andrews) UCR; <sup>^</sup> Carsons Well, IV-4 '66 (R. M. Bohart, R. L. Brumley) UCD; 10 mi. N. E. Earp, IV-17 '64 (D. D. Linsdale) CIS; Lk. Havasu, IV-15 '66 (D. L. Coates) UI; Lobeckes Pass, 18 mi. S. Needles, IV-14 '65 (R. L. Westcott) UI; 1 mi. W. Needles, III-8 '66 (Torchio and Burwell) Phacelia, USU; Oro Grande, IV-15 '38 (T. Aitken) CAS; Windmill Sta., V-28 '50 (H. E. Cott) UCD.

San Diego Co.: IV (D. W. Coquillett) USNM; Anza S. P., IV-23 '51  
(E. I. Schlinger) UCD; Borrego, IV-8 '39, IV-18 '57 (R. M. Bchart,  
H. R. Moffitt) UCD, IV-5 '49, IV-10 '52, IV-25, 28 '54 (P. D. Hurd,  
J. W. MacSwain) CIS, IV-19 '41 (N. R. Anderson, Itol J., J. Jr., and  
J. Wilcox) JW, Spgs., III-30 '60 (M. Wasbauer) CDA; Vallecito Vly.,  
III-23 '48 (G. A. Marsh) CIS.



Imperial Co.: 3.5 mi. N. W. Glamis, Algodones Dunes, IV-13 '68  
(E. M. Bellet, L. O. Tejada, J. De Voe) UCR; Kane Spgs., IV-9 '52  
(E. G. and Joan Linsley) CIS; 22 mi. S. Oasis, III-30, IV-20 '41  
(Dan Toland, J. Jr., and J. Wilcox) JW; 3 mi. S. Palo Verde, IV-8 '49  
IV-9 '63, IV-30 '52 (P. D. Hurd, R. L. Langston, J. Powell, W. A.  
Steffen) prey 2 tachinids, CIS.

Inyo Co.: 4 mi. E. Balarat, IV-9 '55 (R. F. Smith) CIS; Westgard  
Pass Plateau, V-27 '37, CIS.

Kern Co.: Mojave, IV-22 '40, JW; Randsburg, V-1 '52, UCD.

Riverside Co.: 18 and 22 mi. W. Blythe, IV-9 '63, IV-12 '51,  
IV-29 '52 (J. V. Hall, P. H. Timberlake) UCR; Box Cyn., IV-26 '52  
(P. D. Hurd) CIS; 10, 20, 23 mi. E. Desert Center, III-27, IV-13 '41  
(N. R. Anderson, J. C. Elmore, Itol J., J. Jr., and J. Wilcox) JW,  
18 mi. E., III-1 '33 (P. H. Timberlake) UCR; 4 and 5 mi. E. Edom,  
IV-10, 17 '37 (P. H. Timberlake) UCR; Hopkins Well, IV-14 to 16 '48,  
IV-27, 28 '49, IV-29 '52 (J. E. Gillaespy, P. D. Hurd, C. A. Marsh,  
J. Powell, L. W. Quate, J. G. Rozen, R. F. Smith) CIS; Indian Wells,  
IV-1, 9 '61 (R. L. Westcott) LACMNH; Indio, III-16, 29, IV-20 to 30 '41,  
IV-5 '42 (N. R. Anderson, Itol J., J. Jr. and J. Wilcox) JW; ~~Messy~~  
IV-1 '48 (J. W. MacSwain) tachinid prey, CIS; La Quinta, IV-11 '48  
(Guy F. Toland, J. Wilcox) JW; Mecca, IV-13 '41 (N. R. Anderson, Itol  
J., J. Jr. and J. Wilcox) JW, 10 mi. S., IV-4 '37 (P. H. Timberlake)  
UCR; Thousand Palms Cyn., IV-9 '64 (F. D. Parker) UCD, 5.1 mi. E.  
IV-3 '49 (P. H. Timberlake) UCR.

San Bernardino Co.: Amboy Crater, IV-24 '60 (J. Powell) CIS,  
13 mi. E., IV-12 '58 (J. W. MacSwain) CIS; 5 mi. N. Adelanto, V-4 '66  
(J. C. Hall) UCR; nr. Baker, IV-21 '52 (C. A. Hill) LACMNH; Barstow,  
V-31 '41 (J. Wilcox) JW; Cronise Vly., IV-3 '53, IV-29 '56 (J. W.  
MacSwain, J. Powell) CIS, Proscopis; Daggett, VI-3 '48, CIS; Kramer  
Hills, V-4 '66 (F. Andrews) UCR; 7 mi. W. Ludlow, V-7 '53 (C. D. MacNeill)  
♂ with small ♂ prey, CIS; Manix, IV-25 '53 (P. H. Timberlake) UCR;  
Needles, IV-3 '41 (E. G. Linsley, J. W. MacSwain, R. F. Smith) CIS,  
1 mi. W., III-8 '66 (Torchio, Burwell) USU; Yermo, IV-28 '49 (E. G.  
Linsley, J. W. MacSwain, R. F. Smith) CIS, IV-25 '66, V-31 '41 (Dan F.  
and Guy F. Toland, J. Jr. and J. Wilcox) JW.

San Diego Co.: Borrego, IV-24 '49 & '54, IV-26 '55 (P. D. Hurd,  
L. W. Quate, J. G. Rozen) CIS, IV-27 '55 (P. H. Timberlake) UCR, dunes  
and Palm Cyn., IV-6, 7 '64, IV-18 to 20 '57 (R. C. Bechtel, R. M. Bohart,  
R. W. Bushing, J. C. Hall, P. M. Marsh, H. R. Moffitt, F. D. Parker,  
E. I. Schlinger) UCD; 4 mi. S. E. Ocotillo Wells (Dry Lake), IV-4 '42  
(W. Schweikhard, J. Jr. and J. Wilcox) JW.

in Flata (Hine), cont'd.

Riverside Co.: Banning, V-14 '53 (J. Wilcox) JW, V-17 '41 (E. C. Deep Cyn., 1800', IV-19 '74 (Saul Frommer), 1960-3480', V-11 '74 (B. W. Kaul) UCR; Van Dyke) CAS; Morongo Valley, V-23, 24 '41 (E. C. Van Dyke) CAS;

S. W. Palm Desert, 2000-3000', V-8 '62 (A. E. Michelbacher) CIS;

Thousand Palms, V-1 '60 (R. D. Sjogren) UCR.

San Bernardino Co.: Cajon, VIII-9 '44 (A. L. Melander) USNM, Pass, VII-16 '49 (L. D. Anderson) UCR; Joshua Tree N. M., L. Covington Flat, V-28 '60 (M. Knox, E. L. Sleeper) CSULB; Morongo Vly., V-19 '51 (E. I. Schlinger, E. J. Taylor) UCD; 2 mi. N. Phelan, VI-17 '58 (J. C. Hall) UCD; Wrightwood, V-22 '54 (A. L. Melander) USNM, VI-14 '59 (J. C. and E. M. Hall) UCD.

(7) Yermo Wilcox, 1966: 233.

Types 39, Yermo, Cal. CAS.

Geographic range: USA (California).

California records:

Kern Co.: Mojave, V-12 '40, JW.

San Bernardino Co.: nr. Baker, IV-21 '52 (O. A. Hill) LACMNH, 5 mi. N., III-29 '53 (J. W. MacSwain) CIS; Cronise, IV-29 '53 (P. H. Timberlake) UCR, Vly., IV-3 '53, IV-29 '56 (J. W. MacSwain, M. Wasbauer) CIS; Ludlow, 12 mi. W., IV-11 '52 (E. E. Gilbert) CIS; Yermo, IV-12 '66 (J. Wilcox) JW, IV-28 '59 (E. G. Linsley, J. W. MacSwain, R. F. Smith) CIS.

(2) Yuma Wilcox 1966: 224.

Types ♂♀, 16 mi. E. Yuma, Arizona, CAS.

Geographic range: USA (Arizona and California); Mexico (Sonora).

California records:

Imperial Co.: Col. Desert, III-133 (R. M. and G. E. Bohart) UCD;  
Glamis, IV-8 '64 (R. M. Bohart) UCD, 6.2 mi. W., III-2 '68 (M. E. Irwin)  
P. A. Rauch) UCR; 5 mi. N. Kane Springs, IV-9 '52 (E. G. Linsley, J. W.  
MacSwain) CIS; 21, 22 mi. S. Oasis, III-30, IV-20 '41 (N. R. Anderson,  
Itol J., J. Jr. and J. Wilcox) JW; Yuhu Plain, IV-17 '41 (J. Jr. and  
J. Wilcox) JW.

TUBERCOLATA Group, Hine 1919: 135.

(3) producta (Hine) 1919: 136 (Erax).

Types ♂♀, Flinn Springs, Cal., Ohio SU.

Geographic range: USA (Arizona and California).

California records:

Kern Co.: Inyokern, VI-12 '64 (D. G. and John D. Pinto) UCR;  
Mojave, VI-8 '46 (W. F. Barr) UI.

Los Angeles Co.: 6.3 mi. W. Acton Jct., VIII-2 '59 (G. H.

Nelson) Quercus dumosa, FSCA.

Riverside Co.: Cathedral City, VII-3 '51 (J. W. MacSwain, R. F.  
Smith) CIS; Deep Cyn., VI-3 to VII-10 (63, VI-24 to VII-8 '64 (Fred

G. Andrews, G. Ballmer, K. Brown, P. Rauch, E. I. Schlinger) mostly at  
Joshua Tree N.M., Cottonwood Spgs., Pleasant Vly., Quail Guzzler, VI-11 to VIII-4, CSULB, EF;  
light, UCR; Magnesia Cyn., VII-27 '52 (J. W. MacSwain) CIS; Pinyon  
Flat, V-24 '39 (E. G. Linsley) CIS; Tahquitz Cyn., VI-8 '57 (Brumley,  
Menke and Stange) LACMNH.

San Bernardino Co.: Adelanto, VI-10 '61, VI-19 '52 (M. E. Irwin,  
A. T. McClay) UCD; 1 1/2 mi. W. Barstow, VI-21 '42 (Guy F. Toland, J. Wilcox)  
JW; Clark Mt., 45008, VII-8 '38 (P. H. Timberlake) UCR; Cottonwood Spgs.,



Granite Mts., VII-18 '66 (Fred G. Andrews) UCR; Joshua Tree N. M.,  
L. Covington Flat, VII-11 (60 (M. Knox) CSULB, Smithwater Wash, VII-23  
'60 (E. L. Sleeper) CSULB part at black light, Squaw Tank, VI-16, VII-2 '60  
(J. Geest, W. Schilling) C ULB; 3 mi. S. Kramer Jct., VI-18 '61 (R. M.  
Bohart, M. E. Irwin) UCD, 15 mi. E., VII-6 '51 (J. W. MacSwain, R. F.  
Smith) CIS, 15 mi. W., VII-20 '50 (R. Schuster) CIS; Magnesia Cyn.,  
VII-21 '52 (D. E. Barcus, J. K. Hester) UCD; Morengo Vly., VIII-4 '33  
(P. H. Timberlake) UCR; Vistorville, VI-22 '59, VII-7 '51 (P. H.  
Arnaud, Jr., J. C. Hall) CDA; Yermo, V-30 '41 (J. Wilcox) JW; Yucca Vly.,  
20 Mi. W. Twentynine Palms, VIII-3 '33 (H. L. McKenzie) Croton  
californicus, UCR.

San Diego Co.: Mountain Spgs., VI-14 '61 (R. L. Westcott) LACMNH;  
Sentenac Cyn., VI-15 '54 (J. Powell) WRR CIS.

(14) setigera Wilcox 1966: 228.

CAS,  
Type ♂, Camp Baldy, Cal., 2 mi. N. Warner Spgs., Cal., UOD.  
Geographic range: USA (California); Mexico (Baja California N.).  
California records: Los Angeles, Riverside, San Diego and Santa  
Barbara Counties; west of the mountains except the following:

San Diego Co.: Sentenac Cyn., VI-15 '54 (J. Powell) CIS;  
Warner Spgs., VIII-4 '63 (Paul A. Rude) CIS, 2 mi. N., VII-8 '56  
(B. M. Bartosh) UOD.

(16) tucsoni Wilcox, 1966: 231.

Types ♂♀, Portal, Arizona, CAS.  
Geographic range: USA (Arizona, California and New Mexico).  
California records: Inyo Co.: Antelope Spgs., VII-17 '53, VIII-24  
'60 (E. Jessen, J. W. MacSwain) CIS. San Bernardino Co.: 25 mi. S.  
Ivanpah, X-13 '58 (J. A. Chemsak) Chrysothamnus, CIS.

Genus *Furcilla* Martin

Furcilla Martin, 1975: 76.

Type-species, dorothyae Martin.

Geographic range: USA (California to Texas); Mexico (Baja California to Coahuila).

(2) species, undescribed.

Geographic range: USA (California and Nevada).

California record:

*San Bernardino*

~~Imperial~~ Co.: Death Vly., Saratoga Spgs., V-5 '60 (H. E. Menke) UCD.

Genus *Mallophora* Macquart

Mallophora Macquart 1834: 300.

Type-species, Asilus bombooides Wiedemann.

(1b) fautricoides Curran 1930: 13.

Type ♂, San Diego, Cal., AMNH.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Imperial, Kern, Kings, Los Angeles, Maricopa, Mono, Orange, Riverside, San Diego, Santa Clara, Tulare and Ventura Counties. Most records west of the mountains, July to September.

Imperial Co.: Palo Verde, VII-17 '61 ~~xxxxxxx~~ (O. L. Brauner) UCR.

Kern Co.: Inyokern, VII-21 (F. F. Foley) JW.

Mono Co.: VI-15 '22 (W. N. Burdick) Univ. Colo.

San Diego Co.: Sentenec Cyn., IX-11 '38 (C. M. Dammers) UCR.

Genus Megaphorus<sup>S</sup> Bigot

Megaphorus Bigot 1857b: 542.

Type-species, Mallophora heteroptera Macquart (orig. des.) =  
laphroides (Wiedemann).

Mallophorina Curran, 1934b: 183.

Type-species, Mallophora guildiana Williston (orig. des.).

(3) frustra (Pritchard) 1935: 11 (Mallophorina).

Types ♂♀, Tem, Arizona, AMNH.

Geographic range: USA (Arizona, California, Colorado, Nevada,  
New Mexico and Utah).

California records:

Inyo Co.: Baxter Crk. Rd., VII-4 '65 (J. Birchim) CAS; Darwin  
Falls, VII-15 (R. M. Bohart) UCD; Little Lake, VI-29 (Court) UCD;  
Westgard Pass, 5000', VIII-24 (T. Gantenbein) UCD.

Riverside Co.: Pushawalla Palms, Indian Hills, V-20 '65 (H. Ewing)  
UCR.

(3) frustra brunnea (Cole) 1964: 89 (Mallophorina).

Types ♂♀, Portal, Arizona, CAS.

Geographic range: USA (Arizona, California, Colorado, Nevada and  
New Mexico).

California records:

Inyo Co.: Westgard Pass (T. Gantenbein) UCD.

(1b) frustra flavida (Cole) 1964: 87 (Mallophorina).

Type ♂, Scissors Crossing, Cal., ♀, Twentynine Palms, Cal., CAS.

Geographic range: USA (California and Arizona); Mexico (Baja California)  
Fresno, Imperial, Inyo, Kern,

California records: <sup>^</sup>Los Angeles, ~~Orange~~ Riverside, San Bernardino,

San Diego, Shasta and Tulare Counties. Mainly from desert localities,  
May to September. See pp. 13a + 13 b.

Imperial Co.: Mountain Spgms., VI-25 '66 (J. Powell) CIS;  
Seeley, VII-17 (Lipovsky) UK.

Inyo Co.: Argus Mts., Mt. Spgs. Cyn., VI-27 '59 (J. C. Downey)  
Sill.U.; Deep Spgs., VII-16, 17 (J. W. MacSwain, D. D. Linsdale) CIS;  
Little Lake, VII-14 (Court) UCD.

Kern Co.: Rosamond, VII-23 (Hardy) UK, IX-8 (Hurd) Chrysothamnus  
nauseosus mohavensis, CIS.

Los Angeles Co.: VII (D. W. Coquillett) USNM; Big Rock Crk., 3900',  
VII-21 '36 (P. H. Timberlake) UCR; Lancaster, 2 mi. N. <sup>^</sup>(Hurd and Chemsak)  
on C. n. mohavensis, CIS, 6 mi. W., V-24 '67 (S. M. Hogue, R. L. Penrose)  
UI; Littlerock, VIII-16 '47 (J. Wilcox) JW; Pearblossom, VI-22 '59  
(P. H. Arnaud, Jr.) CDA; 3-4 mi. S. E. Valyermo, VIII-22 '66 (R. L.  
Westcott) UI.

Riverside Co.: Anza, VII-7 (Linsley) Eriogonum fasciculatum polifolium,  
<sup>Joshua Tree N.M., 5 locations, VI-1 to IX-23, CSULB, EF;</sup>  
CIS; Deep Cyn., VI-24 '64 (E. I. Schlinger) UCR; <sup>^</sup>Palm Springs, V-28 '43  
(J. Wilcox) JW, VI-22 '58 (G. H. Nelson) FSCA, VI-24 (Stange) LACMNH;  
Pinyon Flat, VI-24, 21 (Van Dyke) CAS.

San Bernardino Co.: Atolia, VII-9 (Bohart) CHM; 20 mi. E. Barstow,  
VI-30 (Beamer, La Berge) UK; mouth Deep Crk., VIII-11 (Schlinger) CHM;  
Daggett to Needles, VI-9 (Van Dyke) CAS; Joshua Tree N. M., L. Covington  
Flat, VI-24 '61 (M. L. West) CSULB; Morongo Vly., VI-18 (Bechtel) CHM,  
VIII-3 '33 (P. H. Timberlake) UCR; Twentynine Palms, IX-17 (Toland) UK;  
Victorville, VII-7 (Hall) CHM, VIII-1 (Beamer) UK; Yucca Vly., 19 mi.  
W. Twentynine Palms, VIII-3 '33 (P. H. Timberlake) UCR.

San Diego Co.: Agua Caliente Spgs., VIII-26 '47 (J. Wilcox) JW;  
Borrego, Palm Cyn., VI-12 '65 (G. R. Ballmer) UCR, S. Indian Cyn., VII-15  
(Marsh) CIS; Jacumba, VIII-12 (Russell) JW, VI-27 '52 (D. J. and J. N.  
Knoll) CSU, VI-29 '63 (J. H. Pogojeff) UCD; Mountain Springs, VII-25



San Diego Co. cont'd.

(Craik and Sailor) UK; San Felipe Vly., VIII-17 '36 (C. M. Dammers)  
LACMNH, IX-9, 11 '38 (P. H. Timberlake) UCR; Scissors Crossing, VII-4  
(Bechtel, Menke, Wiley) Proscopia or "mesquite", CAS, CHM, VI-26 '63  
(E. I. Schlinger) UCR, X-10 '64 (G. R. Ballmer) UCR; Sentenec Cyn.,  
VI-15 (Powell) CIS; Vallecito, IX-24 '36 (J. A. Comstock) LACMNH.

Note: records without year of collection taken from Cole and  
Pritchard (1964).

(2) megachile (Coquillett) 1893: 118 (Mallophora).

Types ♂♀, Los Angeles Co., Cal., USNM.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Los Angeles, Orange, Riverside and San Diego Counties, mainly in coastal areas, June to September.

Riverside Co.: Anza, VIII-6 '35 (S. I. Beamer, Jean Russell) UK.

San Diego Co.: Tenaja C. G., 2100', VIII-3 '65 (B. Ruge, R. Somerby) UCR; Warner Ranch, IX-12 '35 (A. J. Basinger) CAS.

(2) prudens (Pritchard) 1935: 10 (Malleophorina).

Type ♂, Oracle, Arizona, ♀, Whiteriver, Arizona, AMNH.

Geographic range: USA (Arizona, California, New Mexico and Texas).

California records:

Riverside Co.: Pine Flats Camp, nr. Indio, VII-12 (Todd) UK.

(2) <sup>us</sup>pulchra (Pritchard) 1935: 11 (Malleophorina).

Types ♂♀, Carlsbad, New Mexico, AMNH.

Geographic range: USA (Arizona, California, Nevada, New Mexico and Texas); Mexico (Chihuahua, Durango and Sonora).

California records:

Riverside Co.: Blythe, VIII-17 (G. P. Engelhardt) JW, X-16 '34 (C. M. Dammers) UCR; Ripley, VIII-12, X-19 (P. D. Hurd) alfalfa, CIS.

San Bernardino Co.: New York Mts., VIII.

San Diego Co.: 12 mi. E. Julian in Anza Desert, CIS; San Felipe Crk., VIII-29 '36, IX-9 '38 (P. H. Timberlake) UCR.

Genus *Proctacanthella* Bromley

Proctacanthella Bromley, 1934: 96.

Type-species, *Asilus caccopiloxus* Hine.

(2) leucopogon (Williston) 1893: 75 (*Asilus*).

Types ♂♀, South Dakota and Nebraska, UK.

Geographic range: USA (Arizona, California, Colorado, Kansas, Montana, Nebraska, New Mexico, South Dakota and Texas); Mexico (Baja California and Sonora).

California records:

Imperial Co.: 1 mi. W. Glamis, IX-26 '64 (M. E. Irwin) UCR.

Riverside Co.: 18 mi. W. Blythe, X-16 '65 (F. D. Parker) UCD;

Cathedral City, VII-16 '50 (J. W. MacSwain) CIS; Deep Canyon, VII-1 '64,

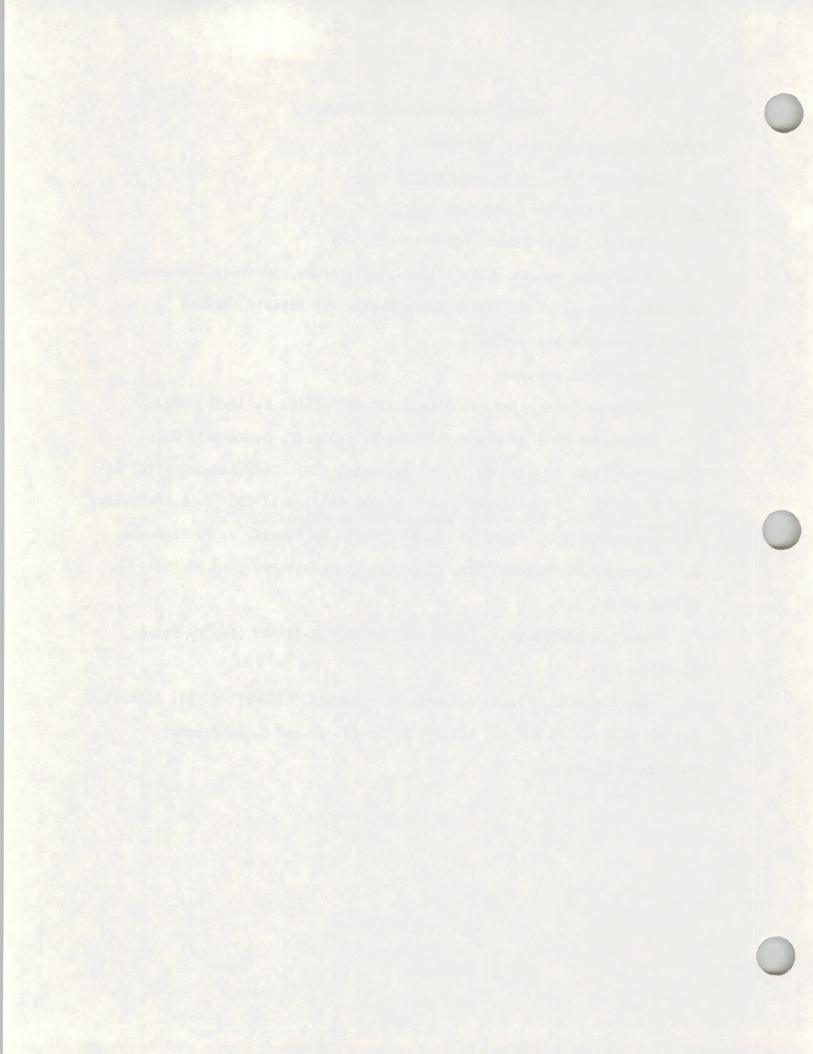
VIII-9 '63 (E. I. Schlinger) UCR; Hopkins Well, X-11 '58 (W. E. Ferguson)  
*Joshua Tree N.M., Pleasant Vly, VII-29 to VIII-22, CSULB, EF;*  
CIS; <sup>^</sup> Magnesia Cyn., VI-27 to VII-21 '52 (R. M. Bohart, J. W. MacSwain,

J. J. Menn, J. H. Nakata) CIS, UCD, UCR; Tahquitz Cyn., VI-24 '56

(G. I. Stage) CIS.

San Bernardino Co.: Twentynine Palms, IX-17 '48 (Guy F. Toland, J. Wilcox) JW.

San Diego Co.: Agua Caliente Hot Springs, VIII-27 '47 (J. Wilcox) JW; Jct. Hwys. 78 and 52, VIII-7, 8 '65 (S. I. and S. L. Frommer, S. Larisch) UCR.





(7) tolandi Wilcox 1965: 109.

Types 42, Whitewater, Cal., CAS

Geographic range: USA (Arizona and California).

California records:

Los Angeles Co.: 8 mi. E. Lancaster, VIII-17 '56 (E. I. Schlinger)

UCD.

Riverside Co.: 18 mi. W. Blythe, X-16 '65 (R. M. Bohart, F. D. Parker)  
UCD; Coachella, X-24 '51 (A. Williamson) CAS; Hopkins Well, X-11 '58,  
X-24 '51 (J. A. Chemsak, W. E. Ferguson, P. D. Hurd, J. W. MacSwain,  
R. W. Thorp) part at light, CIS; Palm Springs, VIII-27 '52, X-9 '55  
(H. Graham, J. W. MacSwain) CIS, VIII-20 '57 (G. H. Nelson) UCD, 6 and 8  
mi. N. W., IX-9, 19 (71 (Nelson Papavero, Itol J. and J. Wilcox) JW, MZUSP,  
7.5 mi. N., sand dunes, XI-18 '33 (P. H. Timberlake) UCR; Thousand Palms,  
X-15 '65 (R. M. Bohart) UCD; White Water, IX-28 '64 (M. W. Stone, Itol J.  
and J. Wilcox) JW, Palm Springs R. R. Sta., VIII-10 to X-15 '47 (Guy F.  
Toland, J. Wilcox) JW.

San Bernardino Co.: 9 mi. W. Rice, X-12 '63 (Eric Fisher) EMF;  
26 mi. E. Twentynine Palms, X-13 '63 (Eric Fisher) EMF.

San Diego Co.: Borrego Desert, Clark Lk., XI-8 '45 (A. L. Melander)  
USNM; 13 mi. E. Borrego Spgs., X-7 '67 (G. L. Lytle, S. A. Gorodenski,  
M. A. Cazier) ASU.

Genus *Proctacanthus* Macquart

Proctacanthus Macquart, 1838: 120.

Type-species, philadelphicus Macquart.

(6) coquilletti Hine, 1911: 160.

Types #2, Los Angeles Co., Cal. (D. W. Coquillett), OhioSU?.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Imperial, Inyo, Los Angeles, Riverside, San Bernardino and San Diego Counties. Occurs along the coast and in the desert areas.

Imperial Co.: Glamis, IV-8 '64 (F. D. Parker) UCD; Gray's Well, VI-23 '52 (D. J. and J. N. Knull) OhioSU; sand dunes on way to Yuma, Arizona, IV-9 '35 (G. P. Engelhardt) JW; 4 mi. N. Gordon's Well, IX-28 '71 (J. C. Hall) UCR.

Inyo Co.: Death Valley N. M., Bennett Well, IV-14 '68 (J. Bigelow) ASU, Stovepipe Well, IV-10 '68 (S. C. Williams, V. Lee) ASU; 15 mi. N. Trona, IV-13 '68 (S. C. Williams, V. Lee) ASU.

Riverside Co.: 3 mi. S. Rice, V-10, 17 '68 (J. Bigelow, R. N. Foster, M. A. Cazier) ASU.

San Bernardino Co.: Kelso, VII-18 '66 (Fred G. Andrews) dunes, UCR; Newberry, V-18 '68 (N. Foster, M. A. Cazier) ASU.

(?) milbertii Macquart, 1838: 124.

Type ?, N. A., Paris Mus.

Geographic range: USA (midwestern states, along Mississippi River, and as far west as Colorado).

California records: Hine (1911) reports from California, seems doubtful.

arno Hine, 1911: 161.

Misidentification of arno Townsend from Baja California Sur.

(2) nearno Martin 1962: 161.

Types ♀, Baboquivari Mts., Arizona, UK.

Geographic range: USA (Arizona, California, Colorado, Nevada, New Mexico, Oklahoma, Utah and Texas); Mexico (Baja California).

California records: Mainly a desert species but is found near the ocean in San Diego Co. and Hine (1911) reports from Palo Alto as arno Townsend which is questioned.

Inyo Co.: 15 mi. N. Bishop, VIII-5 '48 (P. D. Hurd, J. W. MacSwain) CIS.

Kern Co.: Saltdale, VI-19 '32 (A. T. McClay) JW.

Los Angeles Co.: Littlerock, VIII-16 '47 (J. Wilcox) JW; Lovejoy Lk., VII-25 '53 (W. McDonald) LACMNH.

Riverside Co.: Blythe, VI-17, VII-21 '46, VI-25 '45 (R. F. Smith) CIS, 17 mi. N. W., VII-26 '46 (W. F. Barr, P. D. Hurd) CIS; Cathedral City, VIII-1 '50 (L. W. Isaak) UCD; Coachella, VI-11, 26 '30 (D. G. Hall and Hall) JW; Gilman Hot Spgs., VII-2 '52 (R. E. Wagner) LACMNH; 5 mi. W. Indio, VII-9 '56 (P. D. Hurd) CIS; Palms to Pines Hwy., V-24 '40 (R. Husbands) CIS; Palm Springs, V-27 '59 (G. H. Nelson) FSCA; 16 mi. S. Vidal, VII-23 '67 (J. H. and J. M. Davidson, W. A. Cazier) ASU; Whitewater, IX-11 '38 (A. J. Basinger) CAS.

San Bernardino Co.: 13 mi. W. Barstow, VI-21 '42 (Guy F. Toland, J. Wilcox) JW; Needles, VI-30 '51 (Grace H. and John L. Sperry) USNM; Yermo, V-23 '40 (G. E. Bohart, M. Cazier, J. Reeves, P. C. Ting) CIS, UCD.

San Diego Co.: Scissors Crossing, VI-26 '63 (E. I. Schlinger) UCR.

(2) occidentalis Hine 1911: 159.

Type ♂, Los Angeles Co., Cal., 2, Cal. or Idaho, OhioSU.

Geographic range: USA (California, Idaho, Oregon and Washington);  
Mexico (Baja California N.).

California records: Records from practically every County in the State. Mainly a Coastal and Valley species that gets through the mountains in the north and a few in the south, April to October.

Kern Co.: Inyokern, VII-21 '56 (F. F. Foley) JW.

Mono Co.: 23 mi. W. Benton, IX-4 '63 (J. Wilcox) JW; 4 mi. E.  
Jct. Hwys. 395 and 120, VIII-7 '58 (A. D. Telford) UCD.

Riverside Co.: Indio, VII-19 '29 (D. G. Hall and Hall) JW.

Genus Promachus Loew

Promachus Loew 1848: 390.

Type-species, Asilus maculatus Fabricius.

(?) albifacies Williston 1885: 63.

Types ♀♀, Arizona, UK.

Geographic range: USA (Arizona, Colorado, Nevada, New Mexico,  
Utah and Wyoming.

California records: Hine (1911) reports from California but this cannot be verified. It is widespread in Arizona but there are no records from the Counties adjoining California.



(2) aldrichi Hine 1911: 171.

Types ♂♀, Utah, OhioSU.

Geographic range: USA (California, Idaho, Nevada, Oregon, Utah and Washington.

California records: Inyo, Kern, Lassen, Los Angeles, Modoc, Mono, Riverside and San Bernardino Counties. Confined to the fringe areas East of the mountains except two records from Riverside Co. (Perris and Riverside).

Inyo Co.: Antelope Spg., 8 mi. W. Deep Spg., VI-10, 24 '60, VI-14 to VIII-1 '61 (J. W. MacSwain, J. Powell, G. I. Stage, C. A. Toschi) CIS; N. Bishop, VIII-1 '36 (G. E. and R. M. Bohart) UCD; Independence, VIII-13 '57, VIII-21 '63 (J. Wilcox) honey bee prey, JW; Olancho, IX-9 '56 (J. A. Chemsak) CIS; Owens Vly., VIII-2 '31 (G. E. and R. M. Bohart) UCD; Panamint Mts., Wildhorse Cyn., VI-7 '56 (J. M. Burns) CIS, 7000-7500', VI-17 '61 (G. H. Nelson) yellow jacket prey, FSCA; Portal C. G., VII-11 '65 (Ballmer and Bath) UCR; West<sup>3</sup>ard Pass, VIII-24 '60 (D. Q. Cavagnaro) cerambycid prey, RSR, IX-11 '56 (J. A. Chemsak, E. G. Linsley) CIS, IX-15 '63 (Ito J. Wilcox) leaf-fotted bug prey, JW.

Kern Co.: N.W. of Randeburg, VI-27, VIII '63 (D. Gibo) NSCU.

Los Angeles Co.: Granite Hills, VIII-5 '62 (Sugarman) UCR; Littlerock, V-22 '42, VIII-16 '47, IX-19 '48 (Guy F. Toland, J. Wilcox) JW; Lovejoy Buttes, VIII-28 '44 (C. Henne) LACMNH.

Mono Co.: Benton, VII-10 '40 (J. G. Shanafelt) LACMNH, Insp. Sta., VIII-7 '63, ODA; Topaz Lk., VII-10 '51 (T. R. Haig) tiger beetle prey, UCD.

Riverside Co.: Anza, 20 mi. S. E., IX-15 '49 (R. P. Allen) CAS;  
Banning, VII-9 '50 (T. R. Haig) M. J. Stebbins, H. N. Yokoyama) CIS, UCD;  
Indio, IX-19 '46 (J. Wilcox) JW.

San Bernardino Co.: Adelanto, V-31 '48, 5 mi. N., V-30 '48  
(Guy F. Toland, J. Wilcox) JW; Cajon Pass, VII-16 '49 (H. T. Reynolds)  
UCR; Clark Mts., 5000', VII-8 '38, IX-5 '34 (C. M. Dammers, P. H.  
*Joshua Tree N.M., 7 mi. S.E. Joshua Tree, Lower Covington Flat, IX-14 to X-7, CSULB, EF;*  
Timberlake) UCR; Ivanpah Mts., Mexican Well, IX-1 '46 (C. Henne) JW; <sup>^</sup>  
New York Mts., IX-8 '45, IX-23 '40 (C. Henne) JW; Victorville, VI-24 '49  
(H. E. Cott) UCD; Wheaton Spgs., VI-6 '58 (J. Wilcox) JW; 1.2 mi. E.  
Yucca Vly., IX-9 '46 (P. H. Timberlake) UCR.

(?) nigripilosus Schaeffer 1916: 67.

Type ♂, Shasta Co., Cal., USNM.

Geographic range: USA (California and Oregon).

California records: Calaveras, San Diego, Shasta and Trinity  
Counties but none from desert areas. This appears to be a variation  
of princeps Williston.

(1b) princeps Williston 1885: 62.

Types ♂♀, Washington Territory, UK.

Geographic range: USA (California, Nevada, Oregon, Utah and  
Washington).

California records: Alameda, Butte, Eldorado, Inyo, Lassen, Los  
Angeles, Mariposa, Modoc, Mono, Placer, Plumas, Riverside, San Benito,  
San Bernardino and San Luis Obispo Counties. Mainly a species west  
of the mountains with a few in the desert areas.

Inyo Co.: Antelope Spg., VII-1 '61 (D. R. Miller) UOD.

Mono Co.: Mono Lake, VII-17 '51 (R. W. Morgan) UOD.

San Bernardino Co.: 3 mi. N. Cajon Pass, VII-6 '67 (J. Wilcox)  
honey bee prey, JW; Mojave Desert, VI-13 '37 (P. D. Gerhardt) CAS;  
Morongo Vly., VI-13 '51 (R. C. Bechtel) UOD; Phelan, VII-9 to 24 '45  
(Grace H. and John L. Sperry) USNM; Providence Mts., Cedar Cyn.,  
V-27 '50 (H. E. Cott) UOD; 4 mi. E. Wrightwood, VI-7 '66 (J. Wilcox)  
JW.

(7) species, new ?

Similar to aldrichii Hine but smaller and is collected later in  
year.

Geographic range: USA (California).

California records:

Riverside Co.: Pinyon Flat, VIII-24 to X-24 '64 to '67 (J. Wilcox)  
JW.

San Diego Co.: Borrego Vly., X-19 '66 (M. W. Stone, J. Wilcox) JW.

Genus Regasilus Curran

Regasilus Curran, 1931: 24.

Type-species, strigarius Curran (Ecuador), AMNH.

(?) blantoni Bromley, 1951: 35.

Types ♂♀, Wills (Wells), Nevada, USNM.

Geographic range: USA (Arizona, Idaho, New Mexico, Nevada and Utah).

California records: none, but it should be found on the eastern fringes as it is a desert species, August to October.

Genus Triorla Parks

Triorla Parks, 1968: 175.

Type-species, Asilus interruptus ~~Wiedemann~~ Macquart.

(1) interruptus (Macquart), 1834: 310 (Asilus).

Placed in the genera Erax or Efferia prior to 1968.

Type ♀, Georgia, Paris Mus.

Geographic range: USA (coast to coast and as far north as Kansas); Mexico south to Guatemala or farther.

California records: Butte, Colusa, Contra Costa, Fresno, Imperial, Sacramento, Kern, Lassen, Los Angeles, Merced, Orange, Placer, Riverside, San Bernardino, San Diego, San Joaquin, Santa Barbara, Tulare and Yolo Counties; June to October.

Imperial Co.: Calexico, VII-14 '31 (H. W. Capps) CAS; Gordons Well, 3 mi. W., VII-19 '56 (E. I. Schlinger) UCD; Palo Verde and 5 mi. S., 245', VII-11, 14 '66 (J. M. Davidson, M. A. Cazier) small moth prey, ASU.



44

Riverside Co.: Blythe, VII-22 to VIII-20 '46 (W. F. Barr, P. D. Hurd) alfalfa, prey, Colias sp., Dioxmites sp., and acridid Lonozona sp., CIS, VIII-28 '48 (L. D. Anderson) alfalfa, UCR; Coachella, V-19 '28 (E. C. Van Dyke) CAS; Palm Springs, VII-22 '45, CIS; Ripley, VIII-12 to 26 '46 (W. F. Barr, P. D. Hurd) alfalfa, prey, Tachinid, immature Acridid, Colias sp., non-honey bee, and camel cricket, CIS; Thermal, VI-24 '57 (E. I. Schlinger) UOD, 3 mi. S., VIII-19 '53 (J. T. Brooks) CIS, Rummend's Ranch, 62 St./Tyler, VIII-24 '65 (Dan Gerling) UCR.

San Bernardino Co.: 8 mi. W. Needle, VIII-25 '46 (P. D. Hurd) prey, Acridid Boctattix, CIS; Newberry Springs, VII-30 '56 (M. B. Jackson) UK.

San Diego Co.: Borrego Spgs., VI-22 '58 (L. A. Stange) LACMNH, VII-25 '67 (J. H. and J. M. Davidson, M. A. Cazier) ASU; San Felipe Crk., IX-9 '38 (P. H. Timberlake) UCR; Scissors Crossing, VII-4 '56 (H. W. Michalk) CDA, IX-4 '55 (J. Powell) CIS.

Subfamily Asilinae Leach (1819)

Genus *Asilus* Linnaeus (1758)

*Asilus* Linnaeus, 1758: 605.

Type-species, *crabroniformis* Linnaeus.

Probably none of the American species belong in this genus.

Hine (1909) placed all of the Nearctic species in *Asilus* L. and rejected the various groups proposed by Loew (1848) for the European species. Since 1909 a number of the groups proposed by Loew (1848) are considered to be genera and new genera have been erected by Curran (1934), Bromley (1935) and Martin (1975). There are a few species that have not been placed otherwise, so for the present they are listed under *Asilus* L.

(1b) *astutus* Williston, 1893: 70.

Types ♂♀, California, UK.

Geographic range: USA (California and Oregon).

California records: Inyo, Kern, Lassen, Los Angeles, Mariposa, Mendocino, Orange, Riverside, Sacramento, San Bernardino, San Diego, San Joaquin, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Stanislaus, Tulare, Ventura, Yolo and Yuba Counties, April to September.

Inyo Co.: Bigpine, VII-11 '53 (J. W. MacSwain) CIS, 3 mi. E., VII-10 '53 (H. Nakakihara) UCR, 7 mi. E., VII-10 '53 (J. T. Brooks) CIS, Crk., 7500', VI-12 '42 (R. M. Bohart) UCD; Bishop, VI-21 '29 (R. L. Usinger) CAS; Deep Springs, VI-14 '60, VII-17 '58 (J. E. Court, W. D. McLellan) UCD, VII-4, 5 '57 (J. Wilcox) JW, VII-11 to 19 '53, VII-17 '58 (D. D. Linsdale, J. W. MacSwain, H. Nakakihara, R. L. Usinger) CIS, UCR; Lone Pine, VI-4, 14 '57 (J. H. Mitchell) CAS, CIS, V-20 '51 (R. C. Bechler, E. J. Taylor) UCD; Westgard Pass, VII-10 '53 (H. Nakakihara) UCR.

Kern Co.: Mojave, IX-2 '37 (E. G. Anderson) USNM.

Los Angeles Co.: Neenach, V-16 '28 (E. G. Linsley) CAS; Palmdale, Leona Vly., V-6 '49 (A. L. Melander) USNM.

Riverside Co.: Dark Cyn., VI-15 '40, CIS; Indio, III-28 to IV-1 '48 (A. F. Howland, J. Wilcox) JW; Oasis, IV-21 '51 (C. D. MacNeill) CIS; Thermal, IV-11 '57 (J. C. Hall) UCD.

San Bernardino Co.: Victorville, V-5 '56 (J. Powell) CIS, V-16 '33 (C. M. Dammers) LACMNH, USNM.

San Diego Co.: Lake Henshaw Dam, VII-17 '63 (E. I. Schlinger) UCR; Mt. Laguna, VI-15 '57 (C. L. Hogue) LACMNH.

(2) formosus Hine, 1918: 321.

Type ♂, Clary (?Clay) Co., Kansas, August 29, 1911 (F. X. Williams) OhioSU.

Distribution

Geographic range: ~~W&A~~ Canada (Alberta); USA (Arizona, California, Colorado, Idaho, Kansas, Nebraska, Nevada, New Mexico, Utah and Wyoming); Mexico (Chihuahua).

California records:

Inyo Co.: Antelope Springs, VII-21 '67 (M. E. Irwin) UCR.

These flies have been noted sitting at and in the entrances to prairie dog holes in Colorado (James 1941), ground squirrel and badger holes in Wyoming (Lavigne 1968), and wood rat burrows in Arizona by Mont A. Cazier (~~personal communication~~), ASU.

(2) vescus Hine, 1918: 320.

Types ♀, Monterey Co., Cal., AMNH.

sackeni Banks, 1920: 67.

Type ♂, Webber Lake, Cal., MCZ.

Geographic range: Canada (British Columbia); USA (Arizona, California, Colorado, Nevada, Oregon and Washington).

California records: Alpine, Butte, Calaveras, Eldorado, Fresno, Lake, Lassen, Los Angeles, Maders, Marin, Mariposa, Mendocino, Modoc, Mono, Monterey, Nevada, Placer, Plumas, Riverside, Sacramento, San Benito, San Bernardino, San Joaquin, San Mateo, Santa Barbara, Santa Clara, Shasta, Sierra, Siskiyou, Sonoma, Tehama, Trinity, Tulare, Tuolumne and Yolo Counties.

Mono Co.: Bodie, Bodie Crk., 8320', VIII-12 '62 (H. B. Leech) CA  
Leavitt Mdw., 7200', VII-6 '51 (C. A. Downing) UCD, VII-13 '63 (H. B. Leech) flight trap, CAS; Sardine Crk., VI-27 '57 (A. E. Pritchard)  
J. W. MacSwain, J. M. Burns) CIS, VI-28 '51 (T. R. Haig) UCD; 2.5 mi. E. Sonora Pass, 9000', VII-1 '64 (P. Rude) CIS.

Riverside Co.: San Jacinto Mts., Marion Mt. Camp, VII-1 '52  
(A. T. McClay) UCD.

San Bernardino Co.: Barton Flat, 6300', VIII-15 '40 (M. Shman)  
CAS; Big Bear Lake, V-30 '49 (D. R. Estes) CIS; Mt. Home Cyn., VI-8 '24  
(F. R. Cole) CIS; South Fork F. C., 6000', VII-26 '41 (Guy F. Toland,  
J. Wilcox) JW; upper Santa Ana R., VI-11 '50, VIII-6 '54, VIII-12 '53,  
VIII-24 '46 (A. L. Melander) USNM, opp. Fish Crk., VIII-4 '47 (John  
L. Sperry) USNM.



Genus *Machimus* LoewMachimus Loew, 1849: 1.Type-species, Asilus chrysites Meigen.Tolmerus Loew, 1849: 94.Type-species, Asilus pyrae Zeller.Spitritus Loew, 1849: 94.Type-species, Asilus cingulatus Fabricius.(2) callidus (Williston), 1895: 75 (Asilus, Tolmerus).

Types ♂♀, Mt. Hood, Oregon (4 specimens), Washington (6 specimens), UK.

Geographic range: Canada (Alberta and British Columbia); USA (California, Colorado, Idaho, Montana, Nevada, Oregon, Utah, Washington and Wyoming).

California records: Alpine, Calaveras, Eldorado, Fresno, Humboldt, Inyo, Kern, Modoc, Mono, Mariposa, Nevada, Placer, Plumas, Sierra, Siskiyou, Trinity, Tulare and Tuolumne Counties; July to October.

Inyo Co.: Bigpine, VIII-12, 15 '57 (Itol J. and J. Wilcox) JW.

Kern Co.: Walker Pass, IX-16 '63 (J. Wilcox) JW.

Mono Co.: June Lake, X-2 '62 (M. W. Stone) JW; Leavitt Mtns., 7200', VIII-14 '63 (H. B. Leech) flight trap, CAS; Mammoth, VII-1 to IX-13 '57 &amp; '63 (Itol J. and J. Wilcox) JW; Rock Crk., 1 mi. W. Tom's Place, VIII-8 '59, CAS.

(7) species nr. callidus (Williston)

Geographic range: USA (California).

California record:

Riverside Co.: ~~San Jacinto Mts.~~, San Jacinto Mts.; Hemet ~~XXXX~~ Reservoir, VI-13, 14 '39 (W. C. Bish) CAS; Herkey Crk., VI-12 '39 (B. Brookman, C. D. Michener) CAS; Idyllwild, VII-24 '28 (S. C. Van Dyke) CAS; Vandevanter Flat, VI-11, 12, 14 '39 (S. S. Ross, B. Brookman, C. D. Michener) CAS.

(?) coleus Martin, 1975: 26.

Type ♂. Azusa, Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records:

Los Angeles Co.: Azusa, IV-27 '59, IV-28 '41 (J. Wilcox) CAS, JW;  
Claremont (Baker) USNM?; Pasadena, nr., 1200', V-5 '10 (F. Grinnell, Jr.)  
ChioSU.

San Bernardino Co.: Claremont, VI-8 '41 (J. Wilcox, Jr.) JW.

San Diego Co. VI-15 (E. P. Van Duzee) CAS, VI '36 (F. L. Parker) JW;  
Camp Pendelton, Santa Margarita R. nr. Ranch House, IV-23 '46 (P. H.  
Timberlake) UCR; Newton, VII-11 '56 (D. J. Knull) ChioSU.

(2) ?johnsoni (Hine), 1909: 159 (Asilus).

Types ♂♀, Folsom, Delaware Co., Pennsylvania, July 7, 1893

(Charles W. Johnson), ChioSU.

Geographic range: USA (California, Kansas, Maryland, Missouri,  
New Mexico, Ohio, Oklahoma and Pennsylvania).

California records:

San Diego Co.: Cottonwood Rec. Area, In-Ko-Pah Mts., 4850',  
IX-12 '69 (J. B. Heppner) blacklight, FSCA; Laguna Mts., X-3 '63  
(J. Wilcox) JW.

The western specimens are much smaller than the eastern ones  
but will need a male from the <sup>NE</sup> to be certain.

(1b) latapex Martin, 1975: 20.

Holotype ♂, Alhambra, Los Angeles Co., Cal., VII-16 '36

(M. W. Stone), CAS.

Geographic range: USA (California).

California records:

Los Angeles Co.: Alhambra, V-31 '34, VIII-6 '36 (M. W. Stone) JW;  
El Monte, V-22, VI-1 '34 (M. W. Stone) JW; Monrovia Cyn., VI-20 '30  
(C. H. Martin) FSCA; Palmdale, V-17 '47 (McDonald); Pomona, VII-14 '33  
(B. J. Hall) CAS; San Gabriel, VII-3 '57 (J. Wilcox) at light, JW.  
Orange Co.: Brea Cyn., VI-28 '41 (W. R. Cobb) JW; El Toro,  
VII-5 '53 (J. L. Bath) UCR; 4 mi. E. Olive, V-29 to VII-15 '64, '72,  
'75 (Itol J. Wilcox) JW.

Riverside Co.: Banning, V-14 '53 (C. H. Martin) FSCA, S. of,  
VI-17/25 '64 (John D. Pinto) UCR; Riverside, VI-3 '61 (W. H. Ewart) on  
screen door, UCR, VII-11 '25 (P. H. Timberlake) UCR, V-19 '47 (pupae  
in ground) issued VI-3 '47 (P. H. Timberlake) pupal case on pin, UCR.

San Bernardino Co.: Claremont, VI-22 '41 (Guy F. Toland) JW.

San Diego Co.: 1 mi. E. Del Mar, VII-17 '63 (J. C. Hall) UCR;  
Pine Vly., VIII-1 '27 (F. W. Kelsey) VI-25 '30 (Rae Stumb) SDNHM;  
N. Island, San Diego, VII-22, 30 '21, SDNHM.

(?) latapex alticolus Martin, 1975: 21.

Holotype ♂, Big Bear Lake, San Bernardino Co., Calif.,

VIII-6 1968 (J. Wilcox), CAS. The paratypes are

labelled M. alticolus Martin.

Geographic range: USA (California).

California records:

Los Angeles Co.: Monrovia Cyn., VII-20 '30 (C. H. Martin) FSCA;  
Palmdale, V-17 '47 (W. A. McDonald).

Riverside Co.: Banning, V-14 '53 (C. H. Martin) FSCA; San Jacinto  
Mts., VII-21 (29 (L. D. Anderson) UK?, 3 mi. E. Idyllwild, Fern Vly.,  
VIII-12 '64 (E. I. Schlinger) UCR.

San Bernardino Co.: Big Bear Lk., VII-28 '32 (R. H. Beamer) UK,  
Hanna Flats, VIII-15 '63 (Guy F. Toland) JW, Snow Vly., VI-27 '48  
(J. Wilcox) JW; Crestline, IX-1 '63 (M. W. Stone) JW.

San Diego Co.: Pine Vly., VIII-1 '27 (F. W. Kelsey) SDNHM;  
San Diego, VII-20/22 '21, SDNHM, North Island, VI-25 '30 (Rae Stumb)  
SDNHM.



(1b) longipennis Martin, 1975: 25.

Type ♂, Ozena Forestry Camp, upper Cuyama River, Ventura Co.,

Cal., VI-22 '57 (C. W. Kirkwood), CAS, ♀, same data, VI-10 '63,  
CAS.

Geographic range: USA (California).

California records:

Los Angeles Co.: Martin (1975), no data.

Riverside Co.: Riverside, V-10 '45 (R. A. Flock) UCR,  
VI-5 '63 (RDS) UCR; San Jacinto, Massacre Cyn., V-18 '33 (A. J.  
Basinger) CAS; Temecula, IV-24 '51 (R. C. Bechtel) JW.

San Bernardino Co.: Colton, IV-22, V-7 '41 (J. Wilcox) JW;  
11 mi. N. Crestline, VII-27 '52 (R. H. and L. D. Beamer) JW; Yermo,  
V-28 '40 (W. Reeves, M. Cazier, P. C. Tings) CAS.

San Diego Co.: Warner Springs, VI-21 '62 (Itol J. Wilcox) JW.

Santa Barbara Co.: Goleta, VII-1 '59 (J. L. Bath) UCR, VI-29 '59  
(A. E. Menke) JW; Santa Ynez Mts., VI-24 '59 (J. L. Bath) UCR.

Ventura Co.: Camp Ozena (see above); McGrath Lk., VII-9 '48  
(M. W. Stone) JW; 1 mi. W. Santa Susana, V-16 '65 (M. E. Irwin) UCR;  
Sespe Gorge, VI-24 '67 (Carl W. Kirkwood) JW.

(1b) notialis Martin, 1975: 23.

Type ♂, Big Bear Lk., San Bernardino Co., Cal., VIII-8 '68

(J. Wilcox), CAS.

Geographic range: USA (Arizona, California, Nevada, New Mexico and Utah); Mexico (Baja California N.).

California Records:

Inyo Co.: Bigpine, VI-8 '37 (E. C. Van Dyke) CAS, Glacier Lodge, 8500', VII- '57 (J. Wilcox) JW; Independence, VI-21 '37, ~~(E. C. Van Dyke)~~ CAS, VII-4 '58 (J. Wilcox) JW. Lone Pine, VI-13 '37 (E. C. Van Dyke) CAS, 7.3 mi. W., VII-13 '65 (Ballmer and Bath) UCR. Owens Lk., V-5 '26 (J. O. Martin) CAS. 4 mi. E. Whitney Portal, V-31 '63 (Eric Fisher) EMF.

Los Angeles Co.: Littlerock, V-15 '53 (J. Wilcox) JW.

Mono Co.: 4 mi. E. Jct. Hwys. 120 & 395, VIII-7 '58 (A. D. Telford) UCD; 7 mi. S.W. Leevining, VIII-3 '59 (A. D. Telford) UCD; Mono Lk. N., VIII-29 '69 (J. Wilcox) JW.

Riverside Co.: Banning, V-4 '53 (J. Wilcox) JW; Idyllwild, foot of grade, VI-13 '41 (E. C. Van Dyke) CAS; Pinyon Flat, V-11 '53 (Dorothy Martin) FSCA, V-24 '39, VI-18 '41 (E. C. Van Dyke) CAS; Santa Rosa Pk., 8000', VI-22 '40 (E. C. Van Dyke) CAS; Vandevanter Flat, VI-12 '39 (W. C. Bush) CAS; Tahquitz Cyn., VI-30 '38 (E. C. Van Dyke) CAS.

San Bernardino Co.: 11 mi. S. Adelanto, V-25 '57 (J. Wilcox) JW; Barton Flat, VI-VIII '36-'66 (M. W. Stone, Guy F. Toland, J. Wilcox) JW; Big Bear Lk., VI-VIII '51, '67, '68 (J. Wilcox) JW, Hanna Flats, VII-31 '49, VIII-13 '51 (C. H. Martin) FSCA; S. Fork Camp Ground, VII-VIII '41-'64 (Guy F. Toland, J. Wilcox) JW, up. Santa Ana R., VII-4 to VIII-24 '60, '61 (A. L. Melander) USNM, Melander Cabin, 1890 m., VI-27 '68 (Paul H. Arnaud, Jr.) CAS.

San Diego Co.: Laguna (Mt.), VI-24 '26 (W. S. Wright) SDNHM; Palomar Mt., VII-13 '41 (J. Wilcox) JW, 1524 m., VI-27 '68 (P. H. Arnaud, Jr.) CAS; Warner Mts., VII-4 '62 (J. Wilcox) JW.

(1b) occidentalis (Hine), 1909: 147 (Asilus).

Types ?, British Columbia, Nevada, California, Oregon and  
Washington, OhioSU.

Occidentalis Martin, 1975: 19.

Lectotype ♂, Los Angeles Co., Cal. (D. W. Coquillett), OhioSU.

Geographic range: Canada (British Columbia); USA (California,  
Idaho, Oregon,  
Colorado, <sup>Montana</sup>, Nevada, <sup>Utah</sup>, Washington and Wyoming); Mexico  
(Baja California N.).

California records: Alpine, Amador, Inyo, Lassen, Los Angeles, Marin,  
Mono, Nevada, Orange, Riverside, San Bernardino, San Diego, San Luis  
Obispo, Santa Barbara, Tulare and Tuolumne Counties; April to July.  
Probably occurs in all Counties with the possible exception of Imperial  
County.

Inyo Co.: Lake Sabrina, VI-1 '68 (J. D. Birchim) CAS; Onion Vly.,  
VII-10 '63 (Fred G. Andrews) UCR; White Mts., Wyman. Cyn., VI-15, VII-15  
(61, VII-10 '67 (Saul and Suzy Frommer, E. I. Schlinger) UCR.

Los Angeles Co.: 2.5 mi. N. W. Desert Spgs., V-25 '55 (P. H.  
Timberlake) UCR; Big Pines, VII-11 '27 (P. H. Timberlake) prey,  
small Scarab, UCR.

Riverside Co.: 4 mi. N. Banning, V-31 '64 (P. M. Estes) UCR;  
3 mi. N. Beaumont, V-18 '68 (Fred G. Andrews) UCR; Temecula, Woodchuck  
Camp, VI-9 '64 (L. D. Anderson) UCR; top of Palm Cyn., VI-31 '63  
(E. I. Schlinger) UCR.

San Diego Co.: Cuyama Ranch S. P., VI-10 '64 (L. D. Anderson) UCR;  
Mt. Laguna, VI-21 '63 (J. D. Birchim) CAS; Mt. Palomar, V-30, VI-28 '63  
(J. D. Birchim) UCR; San Luis Rey C. G., IV-26 '68 (Fred G. Andrews) UCR.

There are probably many more records from Southern California.  
The ones listed above have had the ♂ genitalia dissected.

(2) paropus (Walker), 1849: 455 (Asilus).

Type ♀, New York. Presented by E. Doubleday, Esp., BMNH.

Geographic range: Canada (Alberta, Manitoba, Nova Scotia, Ontario and Quebec); USA (California, Colorado, Connecticut, Illinois, Indiana, Massachusetts, North Dakota, New Hampshire, New Mexico, New York, Ohio, Utah, Washington and Wyoming).

California records: Alpine, Eldorado, Inyo, Lassen, Plumas, Shasta and Trinity Counties; June and July.

Inyo Co.: approx. .5 mi. S. Deep Springs College, VII-11 '67  
(Saul and Suzy Frommer) Sarcobatus-Atriplex-Dalea, alkaline flat, UCR.

Genus Negasilus Curran

Negasilus Curran, 1934: 384.

Type-species, belli Curran (Short description but no locality given).

(?) belli James, 1941: 44.

Type-locality, Nevada, Fallon, June 14 (E. L. Bell), AMNH (data supplied by Dr. Curran). Complete description given.

Geographic Range: Canada (Alberta); USA (California, Colorado, Idaho, Nevada, Oregon, Utah and Washington).

California records: Lassen, Mono and Siskiyou Counties; June to August. Should be found farther south in California.



Genus *Neomochtherus* Osten Sacken

Machtherus Loew, 1849: 58.

Type-species, Asilus pallipes Meigen.

Neomochtherus Osten Sacken, 1878: 82, 235. (change of name, preoccupied by Schmidt-Göbel, 1846 in Coleoptera).

Type-species, Asilus pallipes Meigen.

(1b) californicus (Hine), 1909: 164 (Asilus).

Type ♂, Cisco, Cal., OhioSU.

oregonae Martin, 1975: 92.

Type ♂, 2 mi. W. Sisters, Ore., VI-25 '48 (S. E. Grunb, Jr.), CAS.

Geographic range: USA (California, Idaho, Nevada and Oregon); Mexico (Baja California N.).

California records: Alameda, Alpine, Amador, Calaveras, Eldorado,

Fresno, Humboldt, Inyo, Lassen, Los Angeles, Madera, Marin, Mariposa,

Merced, Mono, Nevada, Orange, Placer, Plumas, Riverside, Sacramento,

San Bernardino, San Diego, Santa Cruz, Shasta, Sierra, Siskiyou,

Tehama, Trinity, Tulare, Tuolumne and Yolo Counties; April to September.

Inyo Co.: Bigpine, VI-12 '53 (J. Wilcox) JW; Bishop, VI-19 '64

(J. R. Birchm) CAS; Lone Pine, IV-29 '59 (R. Pallen) CDA, V-18, VI-24

'37 (L. R. Gillogly) CAS; Olancha, V-20 '60 (R. P. Allen) CDA; Owens

Lk., V-5 '26 (J. O. Martin) CAS; White Mts., Wyman Cyn., VII-27 '67

(Saul & Suzy Frommer) nr. Stream, UCR.

Los Angeles Co.: Big Pines Camp, VII-13 '37 (P. H. Timberlake) UCR;

Crystal Lk., VI-29 '50 (H. L. Hamen, P. D. Hurd, R. Schuster) CIS, VI-19

'50, VII-2, 9 '52 (A. T. McClay, A. A. Grigarick) UCD, 4700', VII-9 '52

(W. V. Garner) CIS, 1 mi. N. E., VII-1 '62 (J. F. Lawrence) CIS; Tapia

Park, V-17 '60 (S. Gibo) NCSU; 2 mi. S.W. Valyermo, VI-11 '64 (J. S.

Buckett) UCD.

Mono Co.: Baker Sta. nr. Sonora Pass, 1800 m., VI-12 '60 (E. S. Ross) CAS; June Lake, Pine Cliff Trailer Park, VI-9 to 16 '60 (Jack Tomlinson) SFSU; Sardine Crk., VI-27 '57 (A. E. Pritchard) CIS.

Riverside Co.: Banning, V-8 '28 (E. C. Van Dyke) CAS; San Jacinto Mts. (many records and localities, May and June); Dripping Spgs. F. C., VI-12 '62 (J. Wilcox) JW; 7 mi. S. W. Elsinore, VI-30 '62 (J. F. Lawrence) CIS; Tahquitz Cyn., VI-20, 30 '28 (E. C. Van Dyke) CAS.

San Bernardino Co.: Baker Sta., VII-15 '50 (D. Davis) CIS; Baldwin Lk., VI-7 '41 (D. J. and J. N. Knull) OhioSU; San Bernardino Mts. (several records).

San Diego Co.: Aguanga, 10 mi. W., IV-2 '62 (E. I. Schlinger) UCR; Julian, VI-20 '61 (W. H. Ewart) UCR, VII-4 '62 (J. A. Froebe) UCD; Mt. Palomar, VI-22 '66 (M. W. Stone, J. Wilcox) JW, VI-28 '63 (P. D. Hurd, R. L. Langston, J. Powell) Cryptantha intermedia, CIS, VI-30 '36 (W. J. Gertsch) AMNH, VII-13 '41 (J. Wilcox) JW, 1 mi. W., VI-28 '63 (J. F. Lawrence) CIS; Oak Grove, V-8 '45 (A. L. Melander) USNM; Warner Spgs., V-13 '34, VII-4 '62 (M. W. Stone, J. Wilcox) JW.

(?) montanus (Hine), 1909: 149 (Asilus).

Type ♂, Mt. Lowe, Cal., 5000', VIII-12 (T. D. A. Cockerell), USNM.

Geographic range: USA (California).

California records:

Los Angeles Co.: see above.

San Bernardino Co.: Barton Flats, 6300', VIII-15, 19 '40 (M. Ehman)  
LACMNH, X-30 '63 (J. Wilcox) JW, S. Fork Camp, XI-9 '44 (A. L. Melander)  
A. L. Melander  
USNM, Cinega, IX-28 '46 (~~xxxxxxx2xxxx~~) USNM, Thousand Spgs., IX-16 '46  
(John L. Sperry) USNM, up. Santa Ana R., VIII-3, X\*7 '47, IX-15 '49  
(Grace H. and John L. Sperry) USNM; Big Bear Lk., N. side, VIII-18 '67  
(J. Wilcox) JW, Hanna Flats, VIII-15 '51 (Guy F. Toland) JW; 0.5 mi.  
S.E. Cedar Glen, VIII-20 '61 (R. E. Smerby) JW.

San Diego Co.: Mt. Palomar, 5500', IX-15 '53 (F. X. Williams) CAS,  
Palomar, IX-9 '48 (C. A. Marsh) CIS.

(?) species, new ?

Geographic range: USA (California).

California records:

San Bernardino Co.: Barton Flat, VIII-18 '65 (J. Wilcox) JW;  
Big Bear Lk., VIII-19 '67 (Jeff and J. Wilcox) JW, Hanna Flats, VIII-15  
'51 (J. Wilcox) JW.

(2) species, new ?

Geographic range: USA (California).

California records:

Inyo Co.: Alabama Hills, VI-24 '37 (J. H. Mitchell) CAS; 8 mi.  
W. Bigpine, V-4 '66 (J. Wilcox) JW; Independence, VI-12 '58 (J. Wilcox)  
JW, 6 mi. SW, Pinyon Crk., VI-11 '76 (John D. Pinto) UCR; 4 mi. E.  
Whitney Portal, V-31 '53 (Eric <sup>F</sup>isher) EMF.

Mono Co.: Benton, VI-7 '17 (C. L. Fox) CAS; 5 mi. S. E.  
Tom's Place, VI-8 '62 (Eric Fisher) EMF, Rock Crk. C. G., VII-3 '67  
(Paul H. Arnaud, Jr.) CAS.

(?) species, new ?

Geographic range: USA (California).

California records:

Riverside Co.: 8 mi. N. W. Keen Camp, San Jacinto Mts., V-17  
'39 (B. Brookman) CAS.

San Diego Co.: Campo, V-18 '41 (D. J. and J. N. Knull) OSU;  
Ramona, IV-14 '50 (E. G. Linsley) Cryptantha, CIS; Warner Springs,  
IV-19 '50 (J. W. MacSwain) CIS; others (Eric Fisher) EMF.



Genus Neoitamus Osten Sacken

Itamus Loew, 1849: 84.

Type-species, Asilus cyanurus Loew.

Neoitamus Osten Sacken, 1878: 82, 235. (Change of name, preoccupied by Schmidt-Gobel, 1846 in Coleoptera).

Type-species, Asilus cyanurus Loew.

(1h) terminalis (Hine), 1909: 155 (Asilus).

Geographic range: USA (California); Mexico (Baja California N.).

Types ♀, San Antonio Cyn., nr. Ontario, Cal., VII-25 '07

(J. S. Hine), OhioSU.

California records:

Los Angeles Co.: Sierra Madre, Chantry Flat, VI-28, VIII-11 '42

(Guy F. and Jim Toland, J. Wilcox) JW; Tanbark Flat, VII-2 '50

(F. X. Williams) CAS.

Riverside Co.: 7 mi. S. Elsinore, VI-30 '62 (J. F. Lawrence) CIS;

San Jacinto Mts., Hemet Resv., VI-1 '66 (J. Wilcox) JW, Herkey Crk.,

VI-11 '39, VI-14, 20 '40 (E. G. Linsley, C. D. Michener, E. S. Ross)

Cas, CIS, Idyllwild, VI-9 '39 (Ray F. Smith) CAS, Keen Camp, VI-5 '39

(E. S. Ross) CIS, Santa Rosa Pk., 8000', VI-20 '40 (E. G. Van Dyke) CAS.

San Bernardino Co.: Forest Home, VII-20 '66 (J. Wilcox) JW;

Mill Crk., VI-4 '24 (F. R. Cole) CIS.

San Diego Co.: Laguna Mts., VII-6 '29 (P. W. Oman) JW, VII-13 '41,

CIS, Storm Cyn., VI-29 '62 (J. F. Lawrence) CIS; Palomar Mt., VI-22

'66; VII-13 '41 (Max England, J. Wilcox) JW, Observatory C. G., 1544 m.,

VI-27 '68 (Paul H. Arnaud, Jr.) CAS.

Genus *Polacantha* MartinPolacantha Martin, 1975: 49.Type-species, Asilus compositus Hine.(1b) compositus (Hine), 1918: 321 (Asilus).

Type ♂, San Diego, Cal., June 30, 1913 (E. P. Van Duzee), ChioSU.

Geographic range: USA (Arizona, California, Nevada, New Mexico, Oregon, Texas and Utah); Mexico (Baja California, Chihuahua, San Luis Potosi).

## California records:

Inyo Co.: Antelope Spg. 8 mi. W. Deep Spg., VI-29, VII-1 '61,  
 VII-7 '53, VII-9 '66 (H. K. Court, A. S. Menke) Eriognathus neerncannii, UCD;  
 Deep Spgs., VII-17 '53 (W. D. Lelton, D. D. Linsdale), UCD, CIS; 9 mi.  
 Sourdough Cyn., 6600', VII-30 '71 (S. Tuhuan) UCR; Thompson's Camp, 6696', VII-13 '71 (L. La Pre) UCR;  
 W. Lone Pine, VII-19 '61 (P. D. Hurd, J. Powell) CIB; Panamint Mts.,  
 Chris Wicht Camp, VII-10 '65 (G. Ballmer, J. Bath) UCR.

Kern Co.: Walker Pass, VIII-23 '63 (J. Wilcox) JW.

Los Angeles Co.: Bouquet Cyn., VIII-7, X-29 '37 (N. Westerland)  
 LACMANH; Llano, VII-8 '50 (Simonds) CDA.

Mono Co.: Benton, VII-10 '50 (H. A. Hunt) UCD, Inspection Sta.,  
 VI-22, VII-22 '64, VIII-20 '60 (R. Pallen, F. L. Reichert) moth prey,  
 blacklight, CDA; Hit Crk., VIII-1 '36 (G. E. and R. M. Bohart) UCD;  
 1 mi. W. Tom's Place, VIII-13 '57 (D. D. Linsdale) CIS, 1 mi. S.W.,  
 IX-1 '65 (M. J. Tauber, C. A. Toschi) CIS, 1 mi. S., VIII-8 '62  
 (L. A. Stange) UCD.

Riverside Co.: Deep Cyn., VII-26 '63 (E. I. Schlinger) UCR;  
 Joshua Tree N. M., (San Bernardino Co.)  
 Lo Covington Flat, VI-8, 24 '61, VII-30 '60, VIII-17  
 '62 (J. Geest, E. L. Sleeper) blacklight, CSULB, Smithwater wash, VI-27  
 '61, VII-23 '60 (E. L. Sleeper, R. E. Somerby) blacklight, CSULB, Squaw  
 Tank, VII-6 '59 (E. L. Sleeper) CSULB; Palms to Pines Hwy., 3000',

~~V-24-144 (SxxIxxSchlinger) HRR~~ V-24 '40 (C. D. Michener) CAS; upper Palm Cyn., 14 mi. S. E. Keen Camp Summit, VII-8 '64 (E. I. Schlinger) UCR; Pinyon Flat, IX-17 '48 (J. Wilcox) JN; Thousand Palms, VII-30 '65 (K. Brown) UCR.

San Bernardino Co.: Cajon Pass, VII-16 '49 (L. D. Anderson) UCR, VIII-6 '36 (M. B. Jackson) UK; Desert Spg., VI-25 '55 (P. H. Timberlake) UCR; Victorville, VI-16 '50 (J. W. MacSwain) CIS, VI-6 '41 (D. J. and J. N. Knull) OhioSU.

San Diego Co.: Borrego, Tub Cyn., VII '48 (Noel Crickmer) USNM; Jacumba, VIII-12 '35 (E. I. Begner) UK.

Genus *Prolatiforceps* Martin

*Prolatiforceps* Martin, 1975: 61.

Type-species, *Asilus melanocerus* Williston.

(2) species, new ?

Geographic range: USA (California).

California records:

Inyo Co.: Bigpine, VIII-5 to 12 '57 (Ito J. and J. Wilcox) JN; Grandview C. G., White Mts., 8500', VIII-16 '66 (Paul H. Arnaud, Jr.) CAS.

Mono Co.: Rock Crk., Bishop, VIII-13 '61 (L. D. Anderson) UCR; 1 mi. S. W. and 1 mi. W. Tom's Place, VIII-13 '57, '63 (D. D. Linsdale, J. Powell, M. J. Tauber, C. A. Toschi) CIS.

Subfamily Dasypogoninae Macquart (1838)

Genus Blepharepium Rondani

Blepharepium Rondani, 1848: 89.

Type-species, luridum Rondani.

(2) sonorensis Papavero and Bernardi, 1973: 175.

Type ♂, Arizona, Palo Verde, VIII '49 (C. H. Martin) MZUSP.

Geographic range: USA Arizona, California, New Mexico, Texas and Utah); Mexico (Chihuahua, Coahuila, Durango, Nayarit and Tamaulipas); and Cuba.

California records:

San Diego Co.: 5.5 mi. N. W. Scissors Crossing, VII-8 '69

(A. R. Hardy) UCR.

Genus Comantella Curran

Comantella Curran, 1923a: 93.

Type-species, Cyrtopogon maculosus Coquillett (misident.) =

Cophura fallei Back.

(1b) cristatus (Coquillett), 1893b: 33 (Blacodes).

Type ♀, Ventura Co., Cal., USNM.

Geographic range: USA (California).

California records:

Inyo Co.: Independence, II-9 '64 (J. R. Birchim) CAS.

Los Angeles Co.: Claremont (Baker) OSU; San Dimas Cyn.,

III-27 '41 (J. Wilcox) JW.

San Bernardino Co.: Box S. Cyn., 6 mi. S. E. Lucerne Vly.,

IV-15 '64 (R. L. Langston) CIS; Harper Dry Lk., III-13 '72 (W. D.

Sumlin, S-46) UCR; Mill Crk., Cyn., XII-9 '30 (C. H. and D. Martin)

FSCA.



Genus *Cophura* Osten Sacken

Cophura Osten Sacken, 1887: 181.

Type-species, Cophura sodalis Osten Sacken.

Synonyms: Blax ~~Ln.~~, Biacodes ~~Ln.~~, Loewiella ~~Will.~~, Buckella ~~Cinnam.~~

brevicornis (Williston), 1884: 22 (Taracticus).

Types ♂♀, Washington Territory, UK.

Geographic range: USA (California, Colorado, Idaho, Montana, Nebraska, Oregon and Washington).

California records: Del Norte, Kern, Fresno, Madera, Marin, Mendocino, Modoc, Mono, Napa, Nevada, Placer, Plumas, Santa Barbara, Siskiyou, Sierra, Sonoma, Trinity, Tulare and Tuolumne Counties; June to August.

Kern Co.: Cerre Norceste, 8000', VII-15 '65 (J. Powell) CIS.

Mono Co.: Leavitt Mdw., 7200', VII-13, 14 (H. B. Leech) CAS.

brevicornis melanoch<sup>ae</sup>ta Pritchard, 1943: 306.

melanochaeta Melander, 1924: 210.

Types ♂♀, Taha, Idaho, USNM.

Geographic range: USA (California, Idaho and Montana).

California Records:

Kern Co.: Frazier Mt., VII-19 '46, CIS; Mill Potrero, VII-6 '59 (J. L. Bath) UCR.

Riverside Co.: Cinco Pesos Well, 7240', VII-30 '64 (M. E. Irwin) UCR; Santa Rosa Mt., 7500', VI-18 '40 (C. D. Michener) CAS; Tahquitz Vly., San Jacinto Mts., VII-6 '50 (C. J. Weinmann) UCD.

San Bernardino Co.: San Bernardino Mts., many locations; June <sup>to</sup> ~~xx~~ September.

San Diego Co.: Julian, VII-4 '62 (J. A. Froese) UCD; Laguna Mts., VII-1 '41 (John and J. Wilcox) JW, VII-6 '29 (R. H. Beamer) UK, VII-19 '59 (Paul A. Rude) CIS.

(3) brevicornis rubidus Wilcox, 1965: 814.

Types ♂♀, Bigpine, Cal., CAS.

Geographic range: USA (California).

California records:

Inyo Co.: Bishop, VII (Pritchard, 1943); Bigpine, 7500-8500',  
VII-7 '66, VIII-5, 6 '57, VIII-22 '63 (Itol J. and J. Wilcox) JW.

Mono Co.: Convict Lk., 9000', VIII-8 '37 (R. M. and G. E. Bohart)

←UCD; June Lk., VII-25 '56 (J. Wilcox) JW.

(7) dammersi Wilcox, 1965: 807.

Types ♂♀, 25 mi. S. Oasis, Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records:

Imperial Co.: Laguna Dam, IX-25 '35 (C. M. Dammers) UCR; 25 mi.  
S. of Oasis, X-19 '66, X-26 '56, X-28 '62 (J. Wilcox) JW.

(2) dora Pritchard, 1943: 296.

Types ♂♀, Mitchell, Nebr., VII-29, VIII-5 '12 (L. M. Gates) UNeb.

Geographic range: USA (Arizona, California and Nebraska).

California records:

Inyo Co.: Panamint Mts., V-29 '37 (L. R. Gillogly) CAS.

(4) Fisheri Wilcox, 1965: 808.

Types ♂♂, 9 mi. W. <sup>ice</sup>~~Rice~~, Cal., LACMNH.

Geographic range: USA (Arizona, California and Nevada).

California records:

Imperial Co.: 30 mi. S. E. Holtville, X-20 (21 (E. R. Kalmbach) USNM.

Kern Co.: 6 mi. N. E. Mojave, X-6 '57 (J. A. Chemsak) J. W.

MacSwain) CIS.

Los Angeles Co.: Littlerock, X-5 '64 (J. Powell) CIS.

Riverside Co.: 10 mi. W. Blythe, X-23 '57 (P. H. Timberlake)

Dalea, UCR, X-16 '65 (F. D. Parker) UCD; Hopkins Well, X-11 '58 W. E.

Ferguson, J. W. MacSwain, R. W. Thorp) 2 at light and 1 on Dalea, CIS;

2 mi. N. W. Indio, X-26 '52 (E. G. Linsley, R. F. Smith) CIS; Pinto

Wash Well, Joshua Tree N. M., X-15 '61 (E. L. Sleeper) blacklight, CSULB.

San Bernardino Co.: 15 mi. N. W. Landers, X-11 '67 (J. Wilcox) JW;

9 mi. W. Rice, X-12 '63 (Eric Fisher) EMF; 26 mi. E. Twentynine Palms,

X-3 '63 (Eric Fisher) EMF, 27 mi. E., X-18 '65 (M. W. Stone, J. Wilcox)

JW, 2 mi. N., X-11 '67 (J. Wilcox) JW.

San Diego Co.: Borrego Desert, X-19 '50 (A. L. Melander) USNM.

(4) <sup>(Williston)</sup>  
~~fur~~ ~~Wislizen~~, 1885: 53 (Aphamartania).

Type ♂, Arizona, UK.

Geographic range: USA (Arizona, California and Nevada).

California records:

Inyo Co.: 5 mi. Death Vly. Jct., V-20 '65 (A. S. Menke) UCD.

Riverside Co.: Andreas Cyn., IV-7 '40 (R. M. Bohart) UCD;

Boyd Desert Research Center (Deep Cyn.), 4 mi. S. Palm Desert, IV-12 '63

(C. A. Toschi) CIS, V-18 '69 (M. E. Irwin) UCR, V-30 '63 (E. I.

Schlinger) UCR; Devil's Cyn., V-7 '32 (H. Gentry) CAS; 22 mi. W,

Desert Center, V-5 '63 (Eric Fisher) EMF.

San Bernardino Co.: Carson's Well, IV-4, 10 '66 (R. M. Bohart,

R. O. Schuster) UCD.

San Diego Co.: Borrego, IV-27 '54 (M. Wasbauer) CIS; San

Diego, IV-17 '33 (A. M. Barnes) CIS.



(7) getzendaneri Wilcox, 1959: 123.

Types 82, Indio, Cal., CAS.

Geographic range: USA (Arizona and California); Mexico (Baja California N.).

California records:

Imperial Co.: 1 mi. W. Glamis, XII-21 '63 (M. E. Irwin, F. D. Parker) UCD, 6.2 mi. W., III-2 '68 (M. E. Irwin, P. A. Rauch) sand dune assoc., UCR, 12.2 mi. W., Algodones sand dunes, XI-8 '63 (E. I. Schlinger) UCR; 15 mi. S. Oasis, XII-9 '62 (J. Wilcox) JW; E. Salton Sea, II-13 '64 (M. W. Stone, J. Wilcox) JW.

Riverside Co.: Cathedral City, XI-22 '44 (A. L. Melander) USNM; 9 mi. N. E. Desert Center, II-22 '61 (J. Wilcox) JW; Indio, XI-8 to XII-2 (A. F. Howland, J. Wilcox) JW, 5 mi. S. E., I-12 '66 (J. Wilcox) JW; <sup>Joshua Tree N.M., Pinto Wash Well, X-23, 24, CSULB, EF;</sup> I-14 '33 (C. W. Getzendaner) JW, XI-11 '47 (J. Wilcox) JW; 2 mi. E. of N. Palm Springs, XII-16, 22 '63 (M. E. Irwin, E. I. Schlinger) on sand dunes, UCR; 5 mi. S. Oasis, XI-10, 18 (A. F. Howland, Itol J. and J. Wilcox) JW; 7 mi. N. Palm Springs, III-17 '38 (P. H. Timberlake) sand dunes, UCR; Palm Springs, XII-15 to I-12 (P. H. Arnaud, Jr., J. Wilcox) JW, 2 mi. N., XII-16 '64 (J. Wilcox) JW, 7 mi. N., III-17 '38 (P. H. Timberlake) sand dunes, UCR; White Water, XI-10 to I-6 (A. F. Howland, J. Wilcox) JW.

San Bernardino Co.: Joshua Tree N. M., Pinto Wash, XI-23 '62 (E. L. Sleeper) CSULB; 8 mi. W. Rice, X-24 '65 (J. Wilcox) JW; 2 mi. N. E. and 27 mi. E. Twentynine Palms, X-18 '65, X-22 '68, XI-10 '70 (J. Wilcox) JW.

(3) hesperia (Pritchard), 1935: 7 (Buckellia).

Type ♂, Tucson, Ariz., VIII-22 '34 (A. E. Pritchard) AMNH.

Geographic range: USA (Arizona and California).

California records:

Inyo Co.: Wildhorse Cyn., Panamint Mts., V-27 '59 (Truxal and Martin) LACMNH.

(1) painteri Pritchard, 1943: 293.

Type ♀, Safford, Arizona, VII-26 (F. M. Hull), RHP.

Geographic range: USA (Arizona, California and New Mexico);  
Mexico (Baja California and Chihuahua).

California records:

Riverside Co.: Deep Cyn., VIII-22 '63 (E. I. Schlinger) at  
light, UCR.

*pollinosa*  
*curran-*  
*p. 7a*

(7) powersi Wilcox, 1965: 813.

Type ♂, McCoy Spgs., Cal., ♀, Amboy Crater, Cal., CAS.

Geographic range: USA (Arizona and California).

Riverside Co.: McCoy Springs, IV-8 '63 (J. C. Hall, E. I.  
Schlinger) UCR-CAS.

San Bernardino Co.: Amboy Crater, IV-24 '60 (J. R. Powers),  
15 watt blacklight, CIS-CAS.

(7) rozeni Wilcox, 1965: 813.

Type ♂, Box Cyn., Cal., CAS.

Geographic range: USA (California).

California Records:

Riverside Co.: Box Canyon, VI-26 '52 (J. G. Rozen) CIS-CAS.

(3) pellinosa Curran, 1930: 10.

Type ♂, Kits Peak Rincon, Baboquivari Mts., Ariz., VIII-14 '16,  
AMNH.

Geographic range: USA (Arizona, California and Utah.

California records:

Riverside Co.: Pinyon Flat, San Jacinto Mts., VII-11 '68,  
VIII-23 '65, IX-2 '64 (J. Wilcox) LW.

(16) tanbarki Wilcox, 1965: 811.

Types ♂♀, Tanbark Flat, Los Angeles Co., Cal., VII-17 '50

(P. D. Hurd) CIS.

Geographic range: USA (California).

California records: Contra Costa, Los Angeles, Monterey and  
Riverside Counties; April to July.

Los Angeles Co.: Glendora, Angeles N. F., VII-15 '44, coastal sage,  
C28b, C1066, Hemizonia field, USNM; Tanbark Flat, June and July (P. D.  
Hurd, R. Schuster) CIS, R. C. Bechtel, R. M. Bohart, A. A. Grigarick,  
A. T. McClay) UCD.

Riverside Co.: Andreas Cyn., Palm Spgs., IV-24 '32, VIII-10 '54  
(P. H. Timberlake) on Ericornum polifolium, UCR, IV-25 '56 (R. M.  
Bohart) UCD; Palms to Pines Hwy., V-24 '39 (E. S. Ross) CAS; Palm  
Springs, IV-23 '44 (A. L. Melander) USNM.

(7) timberlakei Wilcox, 1965: 808.

Types ♂♀. Palm Springs, Cal., CAS.

Geographic range: USA (California).

California records:

Riverside Co.: Palm Springs, XI-11 '41 (Guy F. Toland, John and  
J. Wilcox) JW, XI-23 '63 (Eric Fisher) EMF, 6 mi. N., XI-13 '45 (P. H.  
Timberlake) UCR; White Water, X-22 '56, XII-1 '47 (J. Wilcox) JW,  
XI-11 '44 (A. L. Melander) USNM.

San Bernardino Co.: Morongo Vly., X-12 '58 (O. C. La France) CIS.

San Diego Co.: Borrego, X-24 '55 (M. Wasbauer) CIS, S. P.,  
XI-20 '56 (J. W. MacSwain) CIS.



(7) tolandi Wilcox, 1959: 125.

Type ♂♂, White Water, Cal., CAS

Geographic range: USA (Arizona and California); Mexico (Sonora).

California records:

Los Angeles Co.: Littlerock, XI-23 '41 (Guy F. Toland) JW.

Riverside Co.: 9 mi. N. E. Desert Center, II-22 '61 (J. Wilcox)  
Joshua Tree N.M., Fried Liver Wash, Pinto Wash Well, X-29 to II-17, CSULB, EF;  
JW; ^ Palm Springs, XII-25 to I-7 (Paul H. Arnaud, Jr.) JW, III-24 '35  
(A. L. Melander) USNM; White Water, XI to I (A. F. Howland, O. H.

Martin, J. Wilcox) CHM, JW.

San Bernardino Co.: E. Highlands, XI-17 '56 (J. Wilcox) JW;

Joshua Tree N. M., Indian Cove, XI-11 '70 (J. Wilcox) JW, Pinto  
Wash, II-17 '62 (E. L. Sleeper) CSULB; Twentynine Palms and 2 mi.  
N. E., XI-10 '70, XI-13 '63 (J. Wilcox) JW.

San Diego Co.: Borego S. P., XI-20 '56 (J. W. MacSwain) CIS.

(3) truncus (Coquillett), 1893: 34. (Blacodes).

Types ♂♂, Los Angeles Co., Cal., USNM.

highlandica Cole, 1916: 63.

Type ♀, East Highlands, Cal., USNM.

Geographic range: USA (California).

California records:

Los Angeles Co.: (D. W. Coquillett) USNM.

Riverside Co.: Washes in Badlands, vic. Jct. U.S. 60 & San Jacinto-  
Hemet Rd., X-13 '68 (Saul and Suzy Frommer, Brian Cheary) UCR.

XI-25 '14  
San Bernardino Co.: E. Highlands (F. R. Cole) USNM, X-22 '56

(J. Wilcox) JW; Mill Crk. Cyn., VII-22 (E. P. Van Duzee) CAS.

San Diego Co.: Coronado, X-11 '90 (F. E. Blaisdell) CAS.

(3) vanduzeei Wilcox, 1965: 810.

Types ♂♀, 0.5 mi. S. E. Cedar Glen, Cal., LACMNH.

Geographic range: USA (California); Mexico (Baja California N.).

California records:

Los Angeles Co.: Tujunga Wash, X-19 '59 (D. Gibo) NCSU.

Pinto Wells, IX-12, CSULB, EF,  
Riverside Co.: Joshua Tree N. M., Split Rock, X-5 '49 (A. L.

Melander) USNM; Riverside, X '52 (A. L. Melander) USNM, X-1 '62, UCR;

San Jacinto Mts., VIII-5 '35 (R. H. Beamer) JW.

San Bernardino Co.: 0.5 mi. S. E. Cedar Glen, VIII-4 to 26 '61

(R. E. Smerby) LACMNH, EMF; Hanna Flats, Big Bear Lk., VIII-15 '57

(J. Wilcox) JW; Mill Crk. Cyn., IX-22 '23 (E. P. Van Duzee) CAS.

San Diego Co.: Mt. Palomar, IX-24 '47, white Oenothus, UCR.

San Diego Co.: San Diego, X-4 '23 (E. P. Van Duzee) CAS.

(7) vandykei Wilcox, 1965: 810.

Types ♂♀, 16 mi. N. Blythe, Cal., CAS.

Geographic range: USA (Arizona and California).

California records:

Riverside Co.: 16 mi. N. Blythe, IV-16 '41 (Ito J. and J. Wilcox)

CAS, JW; Coachella Vly., V-9 '27 (E. C. Van Dyke) CAS; Palm Springs,

IV-12 '57 (C. W. Schaefer) LACMNH.

San Bernardino Co.: 27 mi. E. Twentynine Palms, X-11 '63 (Eric Fisher) EMF.

Genus *Diogmites* LoewDiogmites Loew, 1866: 21.Type-species, platypterus Loew.(7) contortus Bromley, 1936: 235.

Types ♂♀, Yuma, Arizona, USNM.

Geographic range: USA (Arizona and California).

California records:

Imperial Co.: Winterhaven, VIII-16 '62 (W. J. Atkins) CDA.

Riverside Co.: Blythe, VIII-20 '27, lot 542, subplot 327, CU,

VI- '49 (L. D. Anderson, H. T. Reynolds) UCR, VII-5 '37, VIII-20 '27,

IX-25 '32 (P. H. Timberlake) UCR, VII-15 '38, IX-25 '32 (C. M. Dammers)

UCR, USNM, VII-21 '46, VIII-1 to 26 '46, (VII-8, 15 '47 (W. F. Barr,

P. D. Hurd, J. W. MacSwain, Ray F. Smith) part on Tanarix. CIS,

VII-15 '38 (C. M. Dammers) LAGNH, VIII-5 '50 (L. W. Isaak) CDA.

Indio, VII-13 to 31 '62 (E. J. Dietrich) UCR, Rammonds Ranch, 62 St./

Tyler, VIII-24 '65 (Dan Gerling) UCR; Ripley, VIII-16, 26 '46

(W. F. Barr, P. D. Hurd) CIS; Thermal, VI-24 '57 (H. R. Moffitt,

E. I. Schlenger) UCD.

San Diego Co.: San Felipe Wash, VI-5 '36 (C. M. Dammers) LAGNH.

(1b) grossus Bromley, 1936: 236.

Types ♂, Lamar, Colorado, USNM.

Geographic range: USA (Arizona, California, Colorado, Idaho and Utah.

California records:

Fresno Co.: Fresno, VIII-21 '51 (B. Adelson), IX '29, CIS, summer '54 (C. Blazquez) SFSU; 8 mi. N. W. Kerman, VIII-10 '61 (Pat V. Vail) JW; Kingsburg, VIII-7 '52 (J. Nakata) wild be prey, UCD; Reedley, VIII-20 '50, IX-11 '52 (J. C. Hall, A. Laemmle) UCD.

Inyo Co.: Round Mt., VIII-21 '35 (W. N. Burdick) UCol.

Kern Co.: Bakersfield, VIII-28 '58 (E. I. Schlinger) UCD; Buttonwillow, VII-6 '35 (J. Powell) CIS; Shafter, VIII-26 '59 (R. Edwards) CDA, IX-14 '52 (T. F. Leigh) CIS.

Kings Co.: Lemoore, VIII-6 '32 (Lamereaux) CAS, CIS, IX-22 '22 (L. R. Rive) ♀ paratype, UMich.

Madera Co.: Madera, IX-13 '59 (H. T. McLean) in house, CDA.

Riverside Co.: Ripley, VII-12 '46 (J. F. Barr, P. D. Hurd) sweepinh alfalfa, honey bee prey, CIS.

Tulare Co.: Lindsay, IX-6 '32 (P. H. Yimberlake) UCR; Porterville, IX-5 '23 (E. R. Leach) CIS; Visalia, VIII-23 '50 (R. C. Bechtel) yellow jacket prey, UCD, IX-9 '45 (R. P. Allen) CAS.

These records are all from the San Joaquin Valley except these ~~are~~ <sup>from Inyo Co.</sup> from Ripley. This record is not out of place as there are several records from Yuma, Arizona taken in alfalfa fields.



(2) pulchra (Back), 1909: 361 (Derogyia).

Type ♂, Los Angeles Co., Cal., USNM.

Geographic range: USA (California; Arizona ?).

California Records:

Los Angeles Co. (D. W. Coquillett) USNM; Compton, VII-21 '55 (Bill Hopkins) CDA; Huntington Park, VII-20, VIII-25 '40 (Albert Bauman) LACMNH, IX-1 '37, CAS; Norwalk, VIII-8 '49 (P. Nelson) CIS.

Orange Co.: Irvine, VIII-4 '59 (M. W. Stone) JW; Garden Grove, VIII-15 to IX-4 '41 (A. F. Howland, Tom Miller, Guy F. Howland, J. Wilcox) JW; Orange, VIII-20 '60 (M. Wasbauer) yellow jacket prey, CDA.

Riverside Co.: Banning, VIII-24 (W. D. Pierce) LACMNH; Riverside, VIII-23, IX-20 '62 (L. D. Anderson), IX-17 '33, IX-18 '37 (P. H. Timberlake), IX-17 '62 (J. C. Hall), X-19 '35 (H. L. McKenzie) UCR.

Ventura Co.: Ventura, VIII-30 '51, CDA.

This species is mainly coastal where it is rapidly disappearing. The only record on the desert fringes is Banning in Riverside County.

Genus *Hodophylax* James

Hodophylax James, 1933: 1.

Type-species, aridus James.

(4) basingeri Pritchard, 1938: 130.

Type ♀, Quail Spring, Cal., CAS.

Geographic range: USA (Arizona and California).

California records

Imperial Co.: Palo Verde, X-28 '67 (S. A. Gorodenski, M. A. Cazier) ASU, 2 mi. S., X-18 '59 (J. M. MacSwain) Pectis papposa, CIS.

Riverside Co.: Berdoo Cyn., top of, X-29 '63 (M. E. Irwin) UCR; Blythe, XI-2 '36 (C. M. Dammers) USNM, 7, 10, and 10.5 mi. W., X-2 '54 (J. C. Hall, P. H. Timberlake) UCD, UCR, 18 mi. W., X-14 '67 (R. M. Bohart) UCD; Corona, XI-1 '60 (E. G. Brawner) UCR; Deep Cyn., X-15 '67 (E. I. Schlinger) UCR; Pleasant Vly., <sup>Pleasant Vly., Squaw Tank, IX-5 to IX-7, CSULB, EF,</sup> Joshua Tree N. M., Split Rock, X-4/6 '49 (A. L. Melander) USNM, X-5 '65 (M. W. Stone, J. Wilcox) JW; Palm Springs, XI-30 '65 (J. Wilcox) JW, 2 mi. E. of N., XII-17 '63 M. E. Irwin) UCR; Thousand Palms, XI-9 '60 (E. G. Brawner) UCR; White Water (Palm Springs R.R.3.) IX-17, 28, XI-10, 11 '41 to '64 (J. Wilcox) JW, X-27 '34 (A. L. Melander) USNM.

San Bernardino Co.: 11 mi. S. Adelanto, IX-16 '63 (J. Wilcox) JW; 3 mi. N. Cushenbury Spgs., IX-16 '67 (M. W. Stone, J. Wilcox) JW;

Joshua Tree N. M., N. W. old Dale Jct., XI-7 '64 (E. Camero, S. Jenkins) 7 mi. S.E. Joshua Tree, IX-15, EF, CSULB; 8 mi. E. and 8 mi. W. Lucerne Vly., IX-16, X-11 '67 (M. W.

Stone, J. Wilcox) JW; Morongo Vly., X-4 '49, X-5 '34 (A. L. Melander) USNM; Quail Springs, X-5 '34 (A. J. Basinger) type ♀, CAS; Twentynine Palms, IX-17 '48, X-5 '65 (J. Wilcox) JW, 2 mi. N., X-10 '67 (M. W. Stone) JW, 27 mi. E., X-10, 25 '65 (J. Wilcox) big eyed bug prey, JW, 6 mi. N., X-11 '67 (J. Wilcox) JW.

San Diego Co.: Borrego, X-19 '66 (M. W. Stone, J. Wilcox) JW,  
 X-24 '55 (M. Wasbauer) big eyed bug prey, CIS; Julian, IX-18 '38  
 (W. N. Burdick) UCol.; Scissors Crossing, X-10 '64 (G. R. Ballmer) UCR.

halli Wilcox, 1961: 115.

Types 42, Walker Pass, Cal., UCD.

Geographic range: USA (California); Mexico (Baja California N.).

California records:

Kern Co.: Walker Pass, IX-2, 22 '57 (J. C. Hall, H. R. Moffitt,  
 E. I. Schlinger) UCD, about 3 mi. E. of Summit, IX-16 '63 (J. Wilcox) JW.  
 Joshua Tree N.M., Salton View, X-8 '67 (Eric Fisher) EF,  
 Riverside Co.: Pinyon Flat, X-24 '67 (J. Wilcox) JW.  
 ^

San Bernardino Co.: 11 mi. S. Adelanto, IX-16 '63, IX-25 '59,  
 X-11 '67 (J. Wilcox) JW; 2 mi. S. E. Desert Spg., IX-1 '66 (P. A. Ruge)  
 CIS; 4 mi. E. Yucca Vly., X-5 '65 (J. Wilcox) JW.

San Diego Co.: 2 mi. W. Manzanita, ~~X~~<sup>X</sup>-3 '64 (J. Powell) CIS.

Genus *Lestomyia* Williston

Lestomyia Williston, 1883: 19.

Type-species, Clavator sabulorum Osten Sacken.

(4) species 1, new

Geographic range: USA (Arizona and California), Mexico (Sonora).

California records:

Imperial Co.: Glamis, IV-4 '64 (R. M. Bohart) UCD.

Inyo Co.: 7.5 mi. S. W. Balarat, IV-7 '55 (E. G. Linsley) CIS.

Kern Co.: Iron Cyn., El Paso Mts., IV-17 '62 (C. A. Toschi) CIS.

Riverside Co.: 10 mi. N. W. Cottonwood Spg., Joshua Tree N. M.,

IV-11 '63 (C. A. Toschi).

San Bernardino Co.: Kramer Hills, IV-19 '59 (P. H. Timberlake)

UCR.

San Diego Co.: Agua Caliente Hot Spgs., IV-1 '42 (I. J.

Wilcox) JW.

(7) species 2, new

Geographic range: USA (California).

California records:

San Diego Co.: Jacumba, IV-11 '53 (J. Powell) CIS, 4 mi. E.,

3000', IV-15 '64, IV-21 '66, IV-26 '65 (J. Wilcox) Therevid and

Tipulid prey, JW.

(4) species 3, new

Geographic range: USA (California); Mexico (Baja California N.).

California Records:

Imperial Co.: Ocotillo, III-22 '66 (J. W. MacSwain) CIS.



(6) species 4, new

Geographic range: USA (California).

California records:

Inyo Co.: Lone Pine, V\*30 '48 (J. Wilcox) JW; W. side Owens Lk., 3600', IV99 '68 (S. C. Williams, V. Lee) ASU; Short Cyn., 3 mi. W. ~~xxxx~~ Brown, IV-14 '62 (R. M. Bohart) UCD.

Kern Co.: Boron, IV-2 '59 (E. G. Linsley) Coreocsis californica, CIS; 2 mi. E. Inyokern, IV-11 '62 (R. W. Thorp) CIS, 3 mi. E., III-31 '59 (R. W. Thorp, J. R. Powers) CIS, 6.5 mi. N., IV-15 '54 (J. W. MacSwain) CIS.; Kernville, IV-24 '49 (E. G. Linsley, J. W. MacSwain, R. F. Smith) CIS; Mojave, IV-6 '46, CIS; 9 mi. N. Ricardo, E. of Hwy. 6, Last Chance Cyn., IV-10 '60 (C. A. Toschi) CIS, 3/4 mi. N. Ricardo, E. of Hwy. 6, Dove Spring Cyn., IV-15 '60 (C. A. Toschi) CIS; Rosamond, IV-29 '41 (J. Wilcox) JW; Sand Cyn., 3 mi. W. Brown, IV-5 '68, IV-7 '66 (R. O. Schuster) UCD; Short Cyn., 6 mi. W. Brown, III-28/30 '59, III-31 '60, IV-11, 16 '54, IV-11 '62 (E. G. Linsley, J. W. MacSwain, J. R. Powers, R. F. Smith, G. I. Stage, R. W. Thorp) on Malacothrix in part, CIS.

Los Angeles Co.: Bouquet Cyn., III-22 '41 (J. Wilcox) JW; Littlerock, III-23 to V-2 '41, '48 (Guy F. Toland, J. Wilcox) JW; Palmdale, III-15 to V-10 '41 (Itol J. and J. Wilcox) JW, III-26 '47 (A. L. Melander) USNM, 2.5 mi. S., IV-27 '67 (J. C. Hall) UCR.

San Bernardino Co.: Adelanto, III-30 to IV-9 '57, '62 (Itol J. and J. Wilcox) JW, III-25 '57 (Paul H. Arnaud, Jr.) CAS, 11 mi. S., III-30 to V-6 '56, '57, '62 (Itol J. and J. Wilcox) JW, 20 mi. N., IV-18 '62 (M. E. Irwin) UCD; Apple Vly., V-9 '58 (P. D. Hurd) CIS; Baker, IV-5 '66 (R. M. Bohart) UCD; 5 mi. W. Desert<sup>t</sup> Spgs., IV-11 '62 (E. M. Bellet, E. I. Schlinger) UCR; 4 mi. E. Hesperia, IV-13 '62 (R. M. Bohart) UCD, vic. Hesperia, 1 mi. N. corner Roundup Way-Japatal rd., IV-8 '66

(S. Frommer) UCR; 10 mi. E. Midway, IV-6 '66 (R. L. Brumley) UCD;  
 Mojave<sup>V</sup> R. and Deep Crk., IV-27 '41 (J. Wilcox) JW, mouth of Deep Crk.,  
 IV-8 '62 (J. C. Hall) UCR; Sheep Crk. Cyn., Phelan or nr. Phelan,  
 IV-25 '46 (A. L. Melander) USNM.

(2) species 5, new

Geographic range: USA (California); Mexico (Baja California N.).

California records:

Riverside Co.: III-4 '53 (C. M. Dammers) USNM; Bautista Cyn.,  
 III-1 '72 (W. D. Sumlin) UCR; Gavilan Hills, IV-18 '65 (G. R. Ballmer)  
 UCR; 3 mi. E. Hemet, IV-18 '62 (Eric Fisher) EMF, 9 mi. S. (J. L.  
 Bath, 2888), UCR; Pinyon Flat, IV-7 to 13 '63 (D. E. Bright, T. L.  
 Langston, J. Powell, G. Tamaki, C. A. Toschi) CIS, 5 mi. W., V-29 '64  
 (M. W. Stone) JW; Sage, IV-16 '65 (J. Powell) CIS; Santa Rosa Mt.,  
 III-24 '71 (J. C. Hall) UCR; 8 mi. E. Sunnymead, III-26, 27 '58, '59  
 (J. C. Hall, H. R. Moffit, E. I. Schlinger) UCD, CHM.

San Diego Co.: 4 mi. E. Campo, III-26 '61 (W. A. Steffan) CIS;  
 Oak Grove, IV-15, 18, 26 '48, '64, '65 (Guy F. Toland, J. Wilcox) JW.

(2) montis Cole, 1916: 67.

Type ♀, Bear Valley, Cal., 8000', VI '13 (F. R. Cole), USNM.

Geographic range: USA (California).

California records:

San Bernardino Co.: Bear Vly. (see above), Hanna Flats, VI-22  
 '48 (J. Wilcox) JW; Big Bear Lake, N. shore, V-20, 24 '63 (J. Wilcox)  
 JW.

(2) sabulonum (Osten Sacken), 1877: 292 (Clavator).

Types ♂♀, Crafton, nr. San Bernardino, Cal., March (Osten Sacken), MCZ.

redlandae Cole, 1916: 64.

Type ♂, Redlands, Cal., 1913 (F. R. Cole), USNM.

Geographic range: USA (California). Reported from Oregon (Cole and Lovett, 1921), Wyoming (Curran 1931), Colorado (James 1941), and Alberta and British Columbia (Adisocemarto 1967) incorrectly.

## California records:

Los Angeles Co.: Azusa, II-11 '25 (S. W. Bromley) USNM; Burbank, III-25 '39, CIS; Calabasas Highlands, Sta. Monica Mts., III-2 '72 (Eric Fisher) EMF; Chatsworth, III-27 '62 (P. Bellinger) NCSU; Claremont (Baker) OSU, USNM; Sierra Madre, III-26 '41 (J. Wilcox) JW; Tanbark Flat, III-29 '57 (D. D. Linsdale) CIS; Tapia Park, IV-12 '62 (A. Nakagawa) NCSU.

Riverside Co.: 19 mi. S. Aguanga, IV-22 '62 (Eric Fisher) EMF; Dripping Spgs. F. C., IV-7 '62 (Ito J. and J. Wilcox) JW; 6 mi. E. Jct. 395 & 71 Hwys., IV-4 '68 (Saul and Suzy Frommer) UCR; Millard Cyn., 3500', 3500', IV-13 '63, IV-25 '59 (E. I. Schlinger) CIS, UCR, IV-26 '69 (B. Hunt) UCR; Pinyon Flat, V-6 '65 (M. N. Stone) JW; Temecula, IV-11 '50 (P. D. Hurd) CIS, 9 mi. E., IV-13, V-3 '69 (R. R. Snelling) EMF; The Gavilan, IV-11 '48 (Guy F. Toland) JW, III-27 to IV-22 '40 to '61 (P. H. Timberlake) UCR.

San Bernardino Co.: 2 mi. N. of summit of Cajon Pass, III-18 '65 (J. Wilcox) JW; Crafton, March (Osten Sacken) MCZ, II-28 '43, III-7 '42 (C. H. Martin, Guy F. Toland, J. Wilcox) CHM, JW; East Highlands, III-20 '23 (F. R. Cole) CIS, IV-3 '63 (J. Wilcox) JW; Hills W. of Redlands, 1913 (F. R. Cole) USNM; Mt. Home Cyn., VI-21 '48, VII-7 '49



(A. L. Melander) USNM; mouth of Santa Ana Cyn., II-28 '43, III-7 '42  
 (C. H. Martin, Guy F. Toland, J. Wilcox) CHM, JW; N. San Bernardino,  
 II-22 '23 (F. R. Cole) CIS; Verdement, V-9 '49 (A. L. Melander) USNM;  
 Yucaipa, V-2 '45 (J. Wilcox) JW.

San Diego Co.: Alpine, III-27 '68 (S. M. Hogue, R. L. Penrose)  
 UI; Desert Edge, IV-13 '15 (E. P. Van Duzee) OSU; Pine Vly., IV-19 '62  
 (Paul A. Rude) CIS; Warner Springs, IV-19 '50 (J. W. MacSwain) CIS,  
 V-1 '63 (J. Wilcox) JW.

(2) ?fraudigera Williston, 1883: 21.

Type ♂, Mendocino Co., Cal. (D. T. Baron) UK.

Geographic range: USA (California) and Oregon).

California records: Kern County west of the mountains and  
 most of the Counties to the Oregon Border. A similar but slightly  
 smaller fly occurs in the desert areas of Inyo Co. and South with  
 many records from Kern, Los Angeles, Riverside, San Bernardino and  
 San Diego Counties from both sides of the mountains but mainly in  
 the desert areas, March to June but mainly in April.

See pp. 73a, 73b.



Inyo Co.: Olancha, V-18 '56 (J. Wilcox) JW; Short Cyn., 3 mi. W. Brown, IV-14 '62 (R. M. Bohart) UCD.

Kern Co.: Boron, IV-10 '60 (E. G. Linsley) CIS; El Paso Mts., Iron Cyn., IV-17 '62 (C. Slobodichikoff) small Bombylid prey, CIS; Indian Wells, IV-18 '62 (C. A. Toschi) CIS, Cyn. W. of Hwy. 6, IV-9 '62, V-12 '60 (K. Kehre, C. A. Toschi) small moth prey, CIS; Inyokern, 3 mi. E., III-31 (J. R. Powers) CIS, 6.5 mi. N., IV-18 '54 (J. W. MacSwain) CIS; 7 mi. N. W. Mojave, IV-18 '60 (J. Powell) CIS; 4 mi. N. Muroc, IV-30 '50 (T. F. Leigh) CIS; Red Rock Cyn. and 4 mi. N., V-1, 2 '68 (J. Doyen, D. Veirs) CIS, V-1 '72 (R. J. Hamton) EF; Rosamond, IV-29, V-3 '41 (J. Wilcox) JW; San <sup>d</sup>Cyn., 3 mi. W. Brown, IV-17 '66 (R. M. Bohart) UCD; Short Cyn., IV-5 '68 (R. M. Bohart, R. O. Schuster) UCD, 6 mi. W. Inyokern, IV-16 '54 (Ray F. Smith) CIS; 7 mi. E. Walker Pass, IV-25 '52 (G. A. Marsh, J. G. Rozen) Franseria sp., CIS.

San Bernardino Co.: 11 mi. S. Adelanto, IV-7 to V-6 '56, '57, '66 5 mi. W. Desert Spgs., IV-11 '62 (J. C. Hall) UCR; (J. Wilcox) JW; Apple Vly., V-8, 9 '58 (P. D. Hurd) CIS; Granite Pass V-26 '68 (E. M. Bellett) UCR; vic. Hesperia, 9 mi. E. Hwy. 395, 117° 12', 34° 25', IV-8 '66 (Frommer, Gerling) dirt road, UCR; Kramer, Hills, IV-12 '64, IV-18 '62 (M. E. Irwin, E. I. Schlinger) UCR, V-4 '58 (P. D. Hurd) CIS, IV-18 '62, V-19 '59 (J. C. Hall, M. E. Irwin) UCD, Jet., IV-12 '58, IV-15 '65, IV-26 '53 (R. L. Langston, G. A. Marsh, R. O. Schuster) CIS, 2 mi. E., IV-30 '53 (P. H. Timberlake) UCR, 3 and 4 mi. S., IV-4 '68, IV-6 '66 (R. M. Bohart) UCD, 15 mi. E., IV-12 '58 (J. W. Mojave R. and Deep Crk., IV-27 '41 (J. Wilcox) JW; MacSwain) CIS; Mtn. Cajon Cyn., IV-25 '36 (E. G. Linsley) Phacelia, CIS; Victorville, V-1 '53 (G. A. Marsh, R. O. Schuster) CIS, 3 mi. S. W., V-9 '48 (P. H. Timberlake) UCR; Yermo, IV-12 '66 (J. Wilcox) JW.

Los Angeles Co.: Desert Spgs., IV-22 '55, V-5 '56 (P. D. Hurd, R. Schuster) CIS; Devil's Pun<sup>e</sup>xbowl, V-1 '65 (J. Powell) CIS; Littlerock, V-2 '48, V-3 '41, V-15 '53 (J. Wilcox) JW, Dam, IV-30 '68 (P. A. Opler) CIS; Palmdale, V-2 '48, V-3 '41 (J. Wilcox) JW; 4 mi. S. Pearblossom, V-13 '66 (E. G. Linsley) CIS; 6.4 mi. W. Pinon Hills, IV-23 '66 (S. Frommer) UCR, 6 mi. N. W., IV-4 '68 (J. Wilcox) JW; Red Rock Cyn., V-2 '52 (R. M. Bohart) UCD.

Riverside Co.: Deep Cyn., IV-25 to V-2 '71, UCR; Joshua Tree N. M., Cottonwood Spg., IV-26 '49 (J. E. Gillaspay, L. W. Quate) CIS, 1 mi. W., IV-11 '63 (C. A. Toschi) CIS, Lower Covington Dlat, IV-21, 27 '62 (E. L. Sleeper) EMF; Palm Springs, I-21 '53 (J. Wilcox) JW, Andreas Cyn., III-3 '56, IV-2 '55 (J. C. Hall, E. I. Schlinger) UCD, IV-2 '55 (P. H. Timberlake) UCR; Pinyon Flat, V-4, 10 '53, V-16 '64, V-23 '48 (Earl G. Davis, Guy F. Toland, J. Wilcox) JW, IV-7, 13 '63 (D. E. Bright, C. A. Toschi) CIS, 4 mi. N. E., IV-21 '63 (Eric Fisher) EMF.

San Diego Co.: Agua Caliente Hop Spgs., III-15 '68 (J. C. Hall) UCR; Borrego, IV-10 '52 (J. W. MacSwain) CIS, Coyote Crk., III-24 '59 (C. A. Toschi) CIS, Culp Cyn., IV-2 '62, IV-9 '59 (J. C. Hall, E. I. Schlinger) UCD, UCR, Hellhole Cyn., III-25 '59 (R. M. Bohart) UCD; Jacumba, IV-26 '35 (G. P. Engelhardt) JW, 4 mi. E., IV-15 '64 (J. Wilcox) JW, IV-22 '62 (Eric Fisher) EMF; Scissacors Crossing, Valle de San Felipe, 2240-2800', V-4 '68 (R. Honza) UCR.

Genus Nicocles Jaennicke

Pygostolus Loew, 1866: 16 (preocc. Haliday, 1833).

Type-species, argentifer Loew equals politus (Say).

Nicocles Jaennicke, 1867: 355.

Type-species, analis Jaennicke.

(2) abdominalis Williston, 1893: 17.

Type ♂♂, California (O. T. Baron), UK.

Geographic range: USA (California).

California records: Butte, Eldorado, Lake, Los Angeles, Napa, Orange, San Bernardino, Solano and Tuolumne Counties: March to May, July and September.

Los Angeles Co.: Chantry Flat, IV-18 '43 (C. H. Martin) CHM;  
Fish Cyn., VII-4 '49 (E. I. Schlinger) UCD; Monrovia Cyn., III-22, 31  
'31 (C. H. Martin) CHM.

Orange Co.: Holy Jim Cyn., IV-28 '61 (K. D. Peyton) EMF.

San Bernardino Co.: 2 mi. W. Devore, II-20 '68 (Fred G. Andrews)  
UCR; Lytle Crk., 7 mi. N. Fontana, IV-17 '65 (R. L. Langston) CIS.

(2) argentatus Coquillett, 1893: 119.

Types ♂♀, Los Angeles, and Sanbernardino Co.s. Cal., USNM.

Geographic range: USA (California).

Los Angeles Co.: IV (D. W. Coquillett) USNM; Beverly Glen,  
I-10 '65 (Eric Fisher) EMF; upper Mint Cyn., 2500', II-18 '65 (C. Henne)  
alightling on bush, midday, JW.

Riverside Co.: 2 mi. S. E. Console Spgs., II-3 to 18 '66 (M. W.  
Stone, J. Wilcox) JW, XII-15 '66 (Eric Fisher) EMF; Eden Hot Spgs.,  
nr. San Jacinto, around Juniperus californica, CIS; Massacre Cyn.,  
II-12 '66 (M. W. Stone) JW, UCR; 2 mi. N. E. Moreno, IV-15 '65

(G. Slobodchikoff) CIS; Reche Cyn., I-27, XII-15 '66 (M. W. Stone, J. Wilcox) JW; Riverside, X-24 '33, XII-22 '29 (P. H. Timberlake) UCR, XI-5 '28, CIS, IV-19 '90, USNM; 8 mi. E. Sunnymead, I-18, II-17, III-18, IV-2 and XII-20 '64 to '66 (J. Wilcox) JW, IV-16 '65 (M. E. Irwin, P. A. Rauch) UCR; 1 mi. S. San Timateo Cyn., II-15 '66 (J. Wilcox) JW.

San Bernardino Co.: IV (D. W. Coquillett) USNM; E. Highlands, X-31 to XII-17 '56 to '65 (J. Wilcox) JW; 2 mi. S. Redlands, II-15 '66 (J. Wilcox) JW.

Ventura Co.: Piru, IX-'48 (Ros. Miller) USNM.

(2) dives(Loew), 1866: 17 (Pygostolus).

Types 32, California (Agassiz), MCZ.

Geographic range: USA (California, Oregon and Washington).

California records: Alameda, Contra Costa, Fresno, Humboldt, Lake, Madera, Marin, Mariposa, Napa, Nevada, Plumas, Sacramento, San Bernardino, San Benito, San Diego, San Francisco, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Solano, Sonoma, Tehama, Trinity, Tuolumne, Ventura and Yolo Counties.

San Bernardino Co.: Forest Home, VII-20 '66 (J. Wilcox) JW; S. Fork F. C., 6300', VII-1 '43, VII-3 '42, VIII-13 '47 (Guy F. Toland, J. Wilcox) JW; S. Fork Santa Ana R., VI-16 '45 (A. L. Melander) USNM; upper Santa Ana R., III-31 '50, X-15 '46 Grace H. and John L. Sperry) USNM.

San Diego Co.: Palomar Mt., VII-13 '41, X-18 '66 (J. Wilcox) JW.



(2) lanae Cole, 1916: 67.

Type ♂, Redlands, Cal., USNM.

Geographic range: USA (California).

California records:

Los Angeles Co.: Beverly Glen, (Eric Fisher) EMF; Co.,  
IX (D. W. Coquillett) USNM; Santa Mónica Mts., Tapia Park, IV-17 '76  
(N. J. Reimer) UCR.

Riverside Co.: 2 mi. S. E. Console Spgs., II-3, 5 '66 (J. Wilcox)  
JW; Riverside, II-2 '30 (P. H. Timberlake) UCR.

San Bernardino Co.: Redlands, IV '14 (F. R. Cole) taken on a  
sandy plot of ground in the foothills south of, USNM.

(3) utahensis Banks, 1920: 66.

Type ♀, Eureka, Utah, MCZ.

punctipennis Melander, 1924: 217.

Types ♂♀, Wawawai, Wash., USNM.

Geographic range: Canada (Alberta); USA (Arizona, California,  
Idaho, Nevada, Utah and Washington).

California records: Eldorado, Inyo, Mariposa, Modoc, Mono,  
Nevada, Placer and Tulare Counties.

Inyo Co.: Bigpine Crk., 7500', IX-12 '49 (R. M. Bohart) UCD.

Mono Co.: Blanco's Corral, White Mts., 10000', VI-23 '53  
(H. Nakakihara) UCR, VI-23, 30 '53 (T. Brooks, J. W. MacSwain) CIS;  
Convict Lk., VI-22 '65 (J. R. Birchim) CAG; Dead Man's Pass, 8000',  
X-4 '49 (E. I. Schlinger) UCD.

Genus *Omiablautilus* Pritchard

*Omiablautilus*<sup>n</sup> Pritchard, 1935: 1.

Type-species, *arenosus* Pritchard.

(3) *nigronotum* (Wilcox), 1935: 224 (*Ablautus*).

Types ♂♀, Prairie Hill, Oregon, CAS.

Geographic range: USA (California, Idaho, Oregon and Washington).

California records: Lassen, Modoc, Mono, Nevada and Plumas Counties.

Mono Co.: 7 mi. W. Benton, IX-14 '63 (J. Wilcox) JW; Blanco's Corral, White Mts., 10000', VIII-25 '60 (G. W. Colliver, E. Jessen, J. W. MacSwain, C. A. Toschi) CIS, (D. Q. Savagnaro, A. E. Menke) UCD; Bridgeport, VIII-31 (T. F. Winburn) RHP; 7 mi. S. W. Leevining, VII-3 '58 (A. D. Telford) UCD; Mammoth, VIII-22, IX-16 '63 (J. Wilcox) JW.

(7) *nigripes* Wilcox, 1966: 681.

Type ♀, Deep Canyon, Cal., UCR-CAS.

Geographic range: USA (California); Mexico (Baja California N.?).

California records:

Riverside Co.: Deep Canyon, VI-21 '63 (E. I. Schlinger) UCR-CAS.

(7) *tolandi* Wilcox, 1966: 682.

Type ♀, Palm Springs, Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.?).

California records:

Imperial Co.: 7 mi. N. Ogilby, Indian Wash, V-28 '74 (J. D. Pinto) on ironweed, UCR.  
*Toshua Tree N.M., Pleasant Vly., VII-16, CSULB, EF;*  
Riverside Co.: <sup>1</sup> Palm Springs, V-30 '43 (Guy F. Toland) CAS, taken at mouth of Tahquitz Canyon but repeated visits have not produced more specimens.

(7) new species

Geographic range: USA (California); Mexico (Baja California N.).

## California records:

Imperial Co.: 8 mi. NNW Ocotillo, V-9 '71 (John D. Pinto) UCR.

San Bernardino Co.: 2 mi. N. E. Twentynine Palms, XI-10 '70,

XI-22 '68 (Eric Fisher, J. Wilcox) EMF, JW.

Genus Parataracticus Cole

Parataracticus Cole: 1924: 11.

Type-species, rubidus Cole.

(2) niger Martin, 1955: 118.

Types 32, 7 mi. S. Perris, Cal., CHM.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Kern, Riverside, San Bernardino and Riverside Counties.

Riverside Co.: Aguanga, V-11 '53 (C. H. Martin, J. Wilcox) CHM, JW; Box Spgs. Mts., V-27 '65 (M. E. Irwin) UCR; Deep Cyn., V-3 '63, V-25 '64 (M. E. Irwin, E. I. Schlinger) UCR; Joshua Tree N. M., Jumbo Rocks, VI-8 '65 (J. Wilcox) JW; Perris, 1.5 mi. S., V-4 to VI-18 '38, '39 (P. H. Timberlake) UCR; 7 mi. S. W. Perris, IV-29 to V-30 '53, '66 (C. H. Martin, M. W. Stone, Guy F. Toland, Itol J. and J. Wilcox) CHM, JW; Riverside, V-6 to VI-2 '31, '54, '62-'69 (J. C. Hall, M. E. Irwin, E. I. Schlinger, P. H. Timberlake) UCR; Temecula, IV24 '51 (E. I. Schlinger) UCR.

San Bernardino Co.: Granite Mts., 4200', V-9 '76 (T. Griswald) TBN, R12E, Sec. 15, T9.

San Diego Co.: 3 mi. W. Alpine, VI-2 '65 (J. C. Hall) UCR; Borego, IV-12, 17 '56, IV-30 '57 (F. X. Williams) CAS, IV-28 '55 (R. O. Schuster) CIS, Coyote Cyn., IV-6 '64 (M. E. Irwin) UCR; 4 mi. E. of Jacuma, <sup>b</sup><sub>Λ</sub> IV-15 '64 (J. Wilcox) JW.



(2) wyliei Martin, 1955: 116.

Types ♂♂, Wrightwood, Cal., CHM.

Geographic range: USA (California).

California records:

Inyo Co.: Bishop Crk., 7500', VI-18 '74 (T. Griswold) TG.

Kern Co.: Walker Pass, VII-8 '66, VII-23 '63 (J. Wilcox) JW.

Los Angeles Co.: IV-30 '33, USNM, IV-30 '35, UCD; Buckhorn Flats, VII-20 '41 (J. Wilcox) JW; Crystal Lk. Road, 4700', VII-9 '52 (A. A. Grigarick, J. H. Nakata) UCD; Monrovia Cyn., VII-2 to 24 '30, '31 (C. H. Martin) CHM; Tanbark Flat, VII-12 '52, VII-14, 18 '56 (R. C. Bechtel, R. M. Bohart, R. Schuster) UCD, (A. Menke, Jr.) LACMNH; Wrightwood, VII-27 '52 (C. H. and Dorothy Martin, J. Wilcox) CHM, JW.

Orange Co.: Santa Ana Cyn., Peralta, VII-25 '53, VII-25 '54 (C. H. Martin) CHM.

San Bernardino Co.: Cajon, VII-16, 19 '56 (R. C. Bechtel, R. M. Bohart, A. E. Menke, H. R. Moffitt, L. A. Stange) LACMNH, UCD; Camp Baldy, VI-26 '58, VII-7 '52 (R. M. Bohart, R. W. Bushing) UCD.

San Diego Co.: 9 mi. S. Warner Spgs., VII-14 '56 (L. A. Stange) LACMNH.

Santa Barbara Co.: 3 mi. W. Lk. Cachuma, VII-6 '59 (P. E. Paige) UCD; 4 mi. E. Los Prietos, VI-25, VII-12 '65 (M. R. Gardner) UCD.

Genus Saropogon LoewSaropogon Loew, 1847: 439.Type-species, Dasypogon luctuosus Wiedemann.(5) albifrons Back, 1904: 291.

Type ♀♀, Bill Williams Fork, Ariz., UK, UMass.

semiustus Back not Coquillett, 1909: 351, albifrons Back made a synonymn of semiustus Coquillett.albifrons Wilcox, 1966: 130. Found different from semiustus and restored to specific rank.

Geographic range: USA (Arizona and California); Mexico( Baja California N.).

## California records:

Riverside Co.: Blythe, IV-15 '66 (M. A. Brusven) UI, 16 mi. N., IV-14 '41 (J. Wilcox) JW, 32 mi. N., IV-15 '66 (D. L. Coates) UI; Box Cyn., IV-26 '52 (P. D. Hurd) CIS; Deep Cyn., V-18 to VI-30 '63 to '69 (G. R. Ballmer, K. Brown, Saul Frommer, M. E. Irwin, E. I. Schlinger) malaise trap and blacklite, UCR; 2 mi. S. E. Dos Palmas, IV-2 '60 (P. H. Timberlake) UCR; 6 mi. W. Indio, IV-30 '49 (E. G. Linsley, J. W. MacSwain, R. F. Smith) Melilotus, CIS; Palm Springs, V-23 '43 (Guy F. Toland) JW.

San Bernardino Co.: 13 mi. W. Barstow, VI-21 '42 (Guy F. Toland) JW; Cronise Sta., VII-12 '53, LACME; 10 mi. N. Earp, IV-22 '60 (J. R. Powers) 15 Watt black light, CIS; 2 mi. N. E. Twentynine Palms, V-24 '66 (J. Wilcox) JW, 10 mi. E., VI-11 '66, black light, CDA; Wheaton Spgs., V-9 '61 (G. E. Bohart) USU.

(2) hvalinus Coquillett, 1904: 185.

Types ♂♀, Los Angeles Co., Cal., USNM.

Geographic range: USA (California).

California records: Alameda, Fresno, Imperial, Inyo, Kern,  
Los Angeles, San Bernardino, San Luis Obispo, Santa Barbara Counties.

Imperial Co.: Kane Spgs., IX-7 '56 (C. M. Dammers) USNM.

Inyo Co.: Batchelder Spgs., VII-10 '67 (R. M. Bohart) UCD.

Los Angeles Co.: (D. W. Coquillett) USNM.

San Bernardino Co.: Adelanto and 10 mi. S., VII-23 '63 (J. A.  
Froebe) UCD, 11 mi. S., VII-6 '57 (J. Wilcox) JW; Victorville,  
VII-25 '58 (P. D. Hurd).

(2) luteus Coquillett, 1904: 185.

Types ♂♀, Los Angeles Co., Cal., USNM.

rufus Back, 1904: 290.

Type ♀, Tehachapi, Cal., BSNH (MOZ).

Geographical range: USA (California); Mexico (Baja California N.).

California records: Alameda, Butte, Calaveras, Fresno, Inyo,  
Kern, Los Angeles, Mariposa, Merced, Monterey, Orange, Riverside, San  
Bernardino, San Diego, Santa Barbara, Santa Clara, Santa Cruz, Sonoma,  
Stanislaus, Tulare, Tuolumne, Ventura and Yolo Counties; May to August.  
A common species west of the mountains and almost as numerous in the  
desert areas of Los Angeles, Riverside, San Bernardino and San Diego  
Counties. *see p. 81a.*

Kern Co.: Walker Pass, VII-8 '57 (J. C. Hall) UCD.

Los Angeles Co.: Mint Cyn., VII-31 '35 (E. I. Beamer) UK;  
Palmdale, V-29 '48 (J. Wilcox) JW; 2 and 2.5 mi. S. S. W. Valyermo,  
4700', VI-11 '64, VII-6 '65 (J. S. Buckett, C. Henne) UCD, JW;

Wrightwood, VII-7 '52 (J. Wilcox) JW.

*Riverside Co.: Joshua Tree N.M., Pleasant Vly, VI-13, CSULB, EF.*

San Bernardino Co.: Atolia, VII-9 '50 (R. M. Bohart) UCD; Cajon  
and 4 mi. N. W., VII-1 '58, VII-17 '56 (C. L. Wiley, E. I. Schlinger)  
UCD, Vly., VII-24 '45 (Grace H. and John L. Sperry) USNM; Cronise Vly.,  
V-5 '60 (F. D. Parker) UCD; Deep Crk. C. G., VII-12 '64 (R. R. Snelling)  
LACMNH; Pioneertown, 6 mi. N., VII-3 '65 (G. R. Ballmer) UCR; Sheep Crk.  
Cyn., VI-29 '48 (A. L. Melander) USNM.

San Diego Co.: Anza S. P., Culp Cyn., VI-16 '58 (H. R. Moffitt)  
UCD; Banner, 6 mi. E., VI-26 '63 (J. Powell) CIS; Scissors Crossing,  
VI-26 '63 (E. I. Schlinger) UCR, 7 mi. N., VII-15 '63 (H. R. Moffitt)  
UCR.



(5) mohawiki Wilcox, 1966: 134.

Types 42, Mohawk, Arizona, CAS.

Geographic range: USA(Arizona and California); Mexico (Baja California N.).

California records:

Imperial Co.: Fish Spgs., V-30 '31 (H. Gentry) CAS; Glamis, VII-11 '66 (J. M. Davidson, M. A. Cazier) ASU; Palo Verde, VIII-27 '46 (P. D. Hurd) CIS, 2 mi. S.W., VII-16 '62 (P. H. Timberlake) on Tamerix galliae, UCR, 2 mi. S., VII-16 '62 (P. D. Hurd) prey Efferia tricella Bromley on Tamerix galliae, CIS, 10 and 13 mi. S., VII-24, VIII-1, IX-7 '67 (S. C. Williams, J. M. Davidson, M. A. Cazier) Acacia greggii Gray, ASU.

Riverside Co.: Blythe, VI-23 '45, Coyote melon, CIS; Cathedral City, VII-16 '50 (J. W. MacSwain) CIS; Deep Cyn., VI-21 to IX-5 '63, '64 (G. Ballmer, K. Brown, M. E. Irwin, E. I. Schlinger) one at white light, UCR; 8 mi. W. Desert Center, IX-16 '59 (P. H. Timberlake) UCR; Magnesia Cyn., VII-9 '50 (R. M. Bohart) UCD; Palm Springs, V-28, 31 '43 (Guy F. Toland, J. Wilcox) JW, 3 mi. S., VII-15 '40 (P. H. Timberlake) UCR; 16 mi. S. Vial, VII-23 '67 (J. H. and J. M. Davidson, M. A. Cazier) NSU.

San Bernardino Co.: Baker, VI-24 '30 (F. H. Wymore) UCD, 29 mi. S. Needles, VII-2 '63 (A. E. and Martha Michelbacher-628) CIS.

San Diego Co.: Borego Vly., V-26 '54 (F. X. Williams) CAS.

semitus Coquillett, 1904: 186.

Types ♂♀, San Diego, Cal., USNM.

Geographic range: USA (Arizona and California).

California records:

Imperial Co.: <sup>(San Diego Co.?)</sup> Clark Vly., V-2 '32 (H. Gentry) CAS; 8 mi. E. Holyville, III-27 '68 (R. L. Westcott) UI; Kane Spgs., IV-12 '52 (J. W. MacSwain) CIS; 3 mi. S. Palo Verde, IV-9 '63 (P. D. Hurd) CIS; Pinto Wash, IV-28 '58 (F. X. Williams) CAS; San Felipe Crk., IV-8 '39 (R. M. Bohart) UCD; Westmoreland, V-6 '33 (R. M. and G. E. Bohart) UCD.

Riverside Co.: Blythe, IV-15 '66 (M. A. Brusven) UI, 8 and 22 mi. N., IV-8, 9 '63 (E. I. Schlinger) UCR, IV-9 '62 (R. M. Bohart, R. M. Bushing) UCD; Indio, III-30, IV-5 '42, IV-20, 22 '41 (J. Jr. and J. Wilcox) JW, 5 and 6 mi. W., IV-22 '50, IV-30 '49 (P. D. Hurd, E. G. Linsley, J. W. MacSwain, R. F. Smith) Melilotus, CIS; Hopkins Well, IV-16 '58, IV-28 '29, IV-29 '52 (J. E. Gillaespy, P. D. Hurd, G. A. Marsh, Joshua Tree N.M., Pleasant Vly., IV-30 to VI-14, CSULB, EF; J. Powell, J. W. MacSwain, J. G. Rozen) CIS; ^ nr. Palm Springs, VI-8 '30 (P. H. Timberlake) UCR.

San Bernardino Co.: Yermo, V-23 '40 (M. Cazier, P. C. Ting), W. Reeves) CAS, (G. E. bohart) UCD.

San Diego Co.: (D. W. Coquillett) USNM; Borego, V-26 '54 (F. X. Williams) CAS, IV-20 '51, IV-25, 29 '54, V-2 '52 (P. D. Hurd, C. D. Macneill, M. Wasbauer) CIS, Vly., IV-5 '40, IV-23 '55, IV-18, 20 '57 (R. C. Bechtel, R. M. Bohart, J. C. Hall, E. I. Schlinger) UCD.

Subfamily Leptorhinae Macquart 1838

Genus *Andrenosoma* Rondani

*Andrenosoma* Rondani, 1856: 160.

Type-species, *Asilus atrus* Linnaeus.

(2) *fulvicauda* (Say), 1823: 53 (~~Leptorhina~~).

Type ?, Missouri (lost).

Geographic range: Canada (Ontario); USA (Arizona, California, Colorado, District of Columbia, Florida, Illinois, Maryland, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Texas, Virginia and Washington).

California records: Amador, Butte, Calaveras, Eldorado, Fresno, Humboldt, Los Angeles, Madera, Marin, Mendocino, Nevada, Placer, Plumas, Riverside, San Bernardino, San Diego, Santa Clara, Shasta, Siskiyou, Trinity, Tulare and Tuolumne; mainly a mountain species, a few fringe areas.

Riverside Co.: Idyllwild, VII-8 '28 (E. C. Van Dyke) CAS;  
Pinyon Flat, VII-24 '60 (H. H. Nelson) FSCA.

San Bernardino Co.: Barton Flat F. C., VIII-28 '65 (J. Wilcox) JW;  
Cajon Station, VII-28 '61 (R. Westcott) LACMNH; Lytle Crk., VI-7 '28  
(E. C. Van Dyke) CAS; nr. Mountain Top Jct., VII-23 '61 (R. L.  
Westcott) LACMNH.

Genus *Atomosia* Macquart

Atomosia Macquart, 1838: 73.

Type-species, Atomosia incisuralis Macquart equals puella  
Wiedemann.

(2) melanocoxon Hermann, 1912: 144.

Type ♂, Texas, Hermann Coll., Munich?

Geographic range: USA (Arizona, California, Colorado, Iowa,  
Kansas, Oklahoma, New Mexico and Texas); Mexico (Chihuahua, Nuevo Leon,  
and Zacatecas); Guatemala.

California records:

Imperial Co.: Bard, VIII-10, 12 '65 (R. Haygood) Ex. Gossypium  
hirsutum, CDA; 5 mi. S. Palo Verde, VII-14 '66 (J. M. Davidson, M.  
A. Cazier) Sesuvium verrucosum Ref. (sea-purslane), ASU.

Riverside Co.: Blythe, VI-13 to VIII-3 '47 (J. W. MacSwain,  
R. F. Smith) alfalfa, CIS, VIII-31 '59 (K. L. Jappert) ex. Argem lite,  
CDA; Thermal, VIII-17 '57 (J. C. Hall) UCD.

(2) mucida Osten Sacken, 1887: 184.

Types ♂♀, Mexico, Presidio (Borrer), BMNH.

Geographic range: USA (Arizona, California and Texas); Mexico  
(Chihuahua, Sinaloa, Oaxaca and Yucatan).

California records:

Riverside Co.: Deep Cyn., VI-24 to VII-14 '64 (E. I. Schlinger)  
UCR.



Genus *Atomosiella* WilcoxAtomosiella Wilcox, 1937: 40.Type-species, Atomosia antennata Banks.(2) antennata (Banks), ~~Emphilex arizonae~~ 1920: 66.

Type ♂, Douglas, Arizona, MCZ.

Geographic range: USA (Arizona, California and New Mexico);  
Mexico (Baja California).

California records: Inyo, Imperial and Tulare Counties.

Imperial Co.: 10 mi. N.W. Calipatria, V-27 '56 (T. R. Haig) UCD;  
Niland, V-22 '56 (T. R. Haig) UCD; 5 mi. S. Palo Verde, VII-14 '66  
(J. M. Davidson, M. A. Gazier) Sesuvium verrucosum Ref. (sea-lurslane),  
ASU.

Inyo Co.: Panamint Vly., VII-25 '75 (John D. Pinto) UCR.

Genus *Cerotainiops* Curran*Cerotainiops* Curran, 1930: 11.Type-species, *rufiventris* Curran equals *Nusa abdominalis* Brown.(2) *abdominalis* (Brown), 1897: 103. (Nusa).

Type ♀, Cuba, New Mexico, UK lost?

*Nusa similis* Brown (1897), *Nusa abdominalis atripes* McAtee (1919),*Cerotainiops rufiventris* Curran (1930) are synonyms, Pritchard (1942).Geographic range: USA (Arizona, California, Kansas, Nevada, New Mexico, Oklahoma, Utah<sup>k</sup> and Texas); Mexico (Coahuila).

California records: Los Angeles, Riverside, San Bernardino, San Diego and Santa Barbara Counties.

Los Angeles Co. (D. W. Coquillett) CIS.

Riverside Co.: Anza, VII-3, 5 '56 (R. C. Bechtel, R. M. Bohart)  
*Joshua Tree N.M., Pleasant Vly., Squaw Tank, VI-13 to 23, CSOLB, EF;*  
UCD, (H. W. Michalk) CDA; <sup>1</sup> Riverside, VII-1 '27 (P. H. Timberlake) UCR;  
The Gavilan, VI-10 '35 (C. M. Dammers) USNM.

San Bernardino Co.: (D. W. Coquillett) CIS.

San Diego Co.: 6 mi. E. Banner, VI-26 '63 (W. D. Reische) UCD;  
San Diego, VI-15 to VII-9 '21 (Geo. H. Field) SDNHM; San Felipe Vly,  
V-4 '40, *Eriognathus*, CIS.

Lindley (1960) reports them preying on two species of bees, a wasp, and a worker harvester ant.

(2) Lucyae Martin, 1959: 50.

Types ♂♀, Westbrook, Texas, UK.

Geographic range: USA (Arizona, California and Texas).

California records:

Los Angeles Co.: 5 mi. S. Lancaster, V-15 '56 (E. K. Linsley)

J. W. MacSwain) CIS; Palmdale, IV-28 '29 (E. G. Anderson) USNM.  
Joshua Tree N.M., Squaw Tank, Upper Covington Flat, V-2, VI-6, CSOLB, EF;  
Riverside Co.: Pinyon Flat, 16 rd. mi., S. W. Palm Desert,  
^

IV-13 '63 (J. Powell, C. A. Toschi) Sic, V-27 '64 (J. Wilcox) JW.

San Bernardino Co.: nr. Adelanto, IV-28 '49 (A. L. Melander)

USNM, 0.5 mi. N., V-3 '53 (C. D. MacNeill) CIS; 3 mi. N. E. Cajon

Pass, IV-16 '62 (R. Brown, C. D. MacNeill, D. Rentz) CAS; Phelan,

V-12 '63 (J. C. Hall) UCR.

San Diego Co.: 4 mi. E. Jacumba, IV-22 '62 (Eric Fisher) EMF,

IV-14 '64 (J. Wilcox) JW.

(7) McClavi Martin, 1959: 51.

Types ♂♀, Warner Springs, Cal., UCD.

Geographic range: USA (California).

California records:

San Diego Co.: Boulder Oaks, VI-30 '57 (David Peterson) UCR;

San Ysabel, VII-4 '56 (Simonds) CDA; Warner Springs, 2 mi. N.,

VII-4 '56 (H. R. Moffitt, R. W. Bushing) UCD, 5 mi. N., VI-27, VII-8

'58 (Dorothy and C. H. Martin) CRM, LACMNH, VI-12 '62 (J. Wilcox) JW.

(5) omus Pritchard, 1942: 22.

Types ♂♀, Los Angeles, Cal., USNM.

Geographic range: USA (Arizona and California); Mexico (Baja California).

California records: Imperial, Inyo, Los Angeles, Monterey, Orange, Riverside, San Diego, San Luis Obispo, Santa Clara and Stanislaus Co.

Imperial Co.: Borrego Vly., IV-30 '52 (H. Gentry) CAS.

Inyo Co.: Salsberry Pass, 3315', V-6 '60 (A. S. Menke) UCD.

Los Angeles Co.: V (D. W. Coquillett) USNM, CIS.

Riverside Co.: Deep Cyn., IV-28 '65, V-9 '64, V-3 to VI-1 '63  
(M. E. Irwin, E. I. Schlinger) UCR.

San Diego Co.: 2 mi. S. E. Bonita, V-25 '65 (R. L. Langston) CIS; Borrego, IV-24 '55, IV-26-29 '54 (P. D. Hurd, R. O. Schuster) CIS, 14-8-40 (P. H. Timberlake) UCR, IV-25 '55 (R. M. Bohart, E. I. Schlinger) UCD, V-15 '48 (Grace H. and John L. Sperry) USNM, dunes, IV-18 '57 (H. R. Moffitt) UCD, Palm Cyn., V-3 '45 (A. L. Melander) USNM.



(5) wilcoxi Pritchard, 1942: 23.

Type ♂, Tempe, Arizona (D. K. Duncan), U. Minn.  
pritchardi Hull: 1960: 71. Type ♂, San Fernando, Baja California, CAS.  
 Geographic range: USA (Arizona and California); Mexico (Baja California, ~~xxx~~ Chihuahua) and Sonora).

California records:

Imperial Co.: Palo Verde, 245', VII-12 '66 (J. M. Davidson, M. A. Cazier) Atriplex lentiformis Toor.-Wats. (Quail bush), ASU;  
 San Felipe, VI-20 '32 (R. M. and G. E. Bohart); UCD; Westmoreland,  
 VII-20 '33 (H. G. Gentry) UCD; Winterhaven, VI-22, 23 '63 R. L. Westcott, D. S. Verity) UCR.

Inyo Co.: Antelope Spg., VII-8 '60 (H. K. Court) UCD, VIII-24 '60 (C. A. Toschi) CIS.

Los Angeles Co.: 9 mi. S. Palmdale, VIII-15 '63 (R. L. Westcott) UCD; Vincent, VIII-10 '60 (G. H. Nelson) FSCA.

Riverside Co.: Anza, VII-3 '56 (L. A. Stange) LACMNH; Blythe, VI-5 '51, IX-16 '58 (J. W. MacSwain, F. H. Parker, R. F. Smith) CIS, 7 mi. N., VI-23 '46 (W. F. Barr) CIS, 13 mi. N., VII-23 '67 (H. H. and J. M. Davidson, M. A. Cazier) ASU; Cathedral City, VII-13 '51 (J. W. MacSwain, R. F. Smith) CIS; 10 mi. S. Coachella, V-10 '56 (T. R. Haig) CIS; Indian Wells, V-21 '61 (R. L. Westcott) UCR; Indio, X-28 '33 (P. H. Timberlake) UCR; Las Quinta, IX-16 '48 (J. Wilcox) JW;  
 Magnesia Cyn. VII-9 '50 (R. M. Bohart) UCD; Palm Springs, VII-19 '58 (L. A. Stange) LACMNH, VIII-24 '48 (C. H. Martin) CHM, 8 mi. N. W., IX-7, 19 '71 (Claude and Nelson Papavero, J. Wilcox) DZUSP, JW.

San Bernardino Co.: 12 mi. S. Adelanto, VIII-13 '61 (R. L. Westcott) LACMNH; 13 mi. W. Barstow, VI-21 '42 (Guy F. Toland, J. Wilcox) JW; 4 mi. S. E. Desert Spgs., VII-15 '61 (R. L. Westcott) LACMNH; Four Corners, VI-14 '61 (R. W. Thorp) CIS; 13 mi. W. Ilyomar Jet., VII-20 '50; VIII-20 '51 (R. Schuster) CIS; 13 mi. S. Kramer Jet., VII-20 '50 (R. Schuster) CIS.

Genus *Laphria* MeigenLaphria Meigen, 1803: 270.Type-species, Asilus gibbosus Linnaeus.(2) aimatis McAtee, 1918: 160.

Type ♂, California (Baron) USNM, ♀, same data, UK.

Geographic range: USA (Arizona, California, Colorado, Idaho, Montana, Oregon and Washington).

California records: Alameda, Butte, Calaveras, Eldorado, Lake, Madera, Mariposa, Mendocino, Modoc, Napa, Nevada, Placer, Plumas, Riverside, Sacramento, San Bernardino, Santa Barbara, Shasta, Siskiyou, Solano, Trinity and Tulare Counties.

Riverside Co.: Hemet Vly., V-22 '56 (Menke and Stange) UCD;  
Keen Camp, San Jacinto Mts., IV-28 '55 (C. D. MacNeill) CIS;  
Pinyon Flat, V-24 '39 (J. G. Shanafelt) LACMNH.San Bernardino Co.: Barton Flats, VII-7 '56; Lk. Arrowhead,  
VI-10 (35 (A. R. Mead) UCD.(2) astur Osten Sacken, 1877: 285 (Laphria Dasvallis).Types 6 ♂♂, 9 ♀♀, California: Petaluma, Mendocino, Saucelito and  
Weber Lake, MCZ.californicus (Banks), 1917: 54 (Dasvallis).

Types ♂♀, Webber Lake, Cal., MCZ.

Geographic range: Canada (British Columbia); USA (California, Idaho, Oregon and Washington).

California records: Alpine, Amador, Calaveras, Eldorado, Glenn, Lake, Lassen, Los Angeles, Madera, Marin, Mariposa, Mendocino, Merced, Modoc, Mono, Nevada, Placer, Plumas, Riverside, San Bernardino, San Diego, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Trinity, Yulare, Tuolumne and Yolo Counties.

Los Angeles: Crystal Lake, VI-29 '50 (P. D. Hurd) CIS.  
 Riverside Co.: San Jacinto Mts., VII-1 '52 (D. E. Barcus) UCD.  
 San Bernardino Co.: Barton Flat, VI-VII-7 '36, CAS; S. Fork  
 Mds., VI-25, VII-12 '48 (Grace H. and John L. Sperry) USNM; upper  
 Santa Ana R., V-2 '47, VII-6 '48 (A. L. Melander) USNM.

(2) coquilletti McAtee, 1919: 157.

Type ♂, Los Angeles Co., Cal., USNM.

Geographic range: USA (California).

California records: Alameda, Butte, Lake, Los Angeles, Madera,  
 Monterey, San Bernardino, San Diego, San Mateo, Santa Clara, Santa  
 Cruz, Solano, Sonoma and Ventura Counties.

Los Angeles Co.: (D. W. Coquillett) USNM; Camp Baldy, VI-11 '50  
 (P. D. Hurd) CIS; Chantry Flat, VIII-11 '42 (Guy F. Toland, J. Wilcox)  
 JW; Crystal Lake, 4700', VI-28 '50, VII-9 '52 (R. L. Anderson, R. M.  
 Bohart, J. H. Nakata) UCD, VIII-2 '60 (Fred G. Andrews) UCR.

Inyo Co.: Bigpine, VIII-10 '57 (J. Wilcox) JW.

San Bernardino Co.: S. E., VI-15 '30 (Hall and Hall) JW; Glen  
 Martin, VIII-16 '20 (F. R. Cole) CIS; Mt. Home Cyn., VIII-8 '42  
 (Guy F. Toland) JW.

(3) felis Osten Sacken, 1877: 286.

Type ♀, Webber Lake, Cal., MCZ.

Geographic range: Canada (British Columbia); USA (California,  
 Idaho, Oregon, Utah, Washington and Wyoming).

California records: Eldorado, Fresno, Lassen, Los Angeles, Mariposa,  
 Modoc, Mono, Napa, Nevada, Placer, Plumas, San Bernardino, Santa Barbara,  
 Shasta, Sierra, Siskiyou, Tulare and Tuolumne Counties.

Los Angeles Co.: Tanbark Flat, VI-22 '50 (J. D. Paschke) CIS,  
VII-3 '50 (R. Schuster) UCD.

Mono Co.: Crooked Crk., White Mts., 9500', VI-22 '61 (J. Powell) CIS.

(2) franciscana Bigot, 1878: 225.

Type ?, California, Hope Museum, Oxford.

Geographic range: Canada (British Columbia, Ontario); USA (California, New York, Oregon, Vermont and Washington).

California records: Alameda, Eldorado, Lassen, Marin, Mariposa, Monterey, Nevada, Placer, Plumas, Riverside, San Bernardino, San Mateo, Santa Cruz, Shasta, Sierra, Siskiyou, Sonoma, Trinity, Tulare and Tuolumne Counties.

Riverside Co.: San Jacinto Mts., Idyllwild, VII-6 '50 (B. Adelson) CIS; Santa Rosa Pk., 8000', VI-20 '40 (E. O. Van Dyke) CAS.

San Bernardino Co.: Mt. Home Cyn., IX-20 '22 (F. R. Cole) CIS.

(2) sackeni (Banks), 1917: 54 (Dasyllia).

Types 42, Brookdale, Walnut Creek, San Francisco and Contra Costa, Cal., MCZ.

Geographic range: USA (California, Oregon and Washington).

California records: Alameda, Calaveras, Contra Costa, Eldorado, Humboldt, Imperial, Lake, Los Angeles, Madera, Marin, Mariposa, Modoc, Monterey, Orange, Plumas, Riverside, Sacramento, San Bernardino, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Tehama, Trinity, Tuolumne and Yolo Counties.

Imperial Co.: Brawley, X-29 '48 (J. T. Hache) UCR.

Los Angeles Co.: Crystal Lk., VII-9 '52 (R. L. Anderson) UCD;  
Tapia Park, IV-12 '62 (S. Sander) NGSU; Tujunga Cyn., IV-22 '62  
(D. Gibo) NGSU.



San Bernardino Co.: Barton Flat, VI-27 '36, CAS; S. Fork Mdw., VI-12 to VII-20 '48 (John L. Sperry) USNM; upper Santa Ana R., VIII-17 '46 (John L. Sperry) USNM.

(2) sadalea Walker, 1849: 378.

Type ♀, New York, BMNH.

pubescent Williston, 1883: 32.

Types ♂♀, Washington Territory and Mt. Hood, Ore. (H. K. Morrison), UK.

Geographic range: Canada (Alberta, British Columbia and Ontario); USA (California, Colorado, Idaho, Michigan, New Hampshire, New York, Oregon, Utah, Vermont, Washington, Wisconsin and Wyoming).

California records: Del Norte, Eldorado, Humboldt, Lassen, Mendocino, Nevada, Plumas, San Bernardino, Sierra, Siskiyou, Trinity, Tulare and Tuolumne Counties).

San Bernardino Co.: Barton Flat, 6300', VII-12 '47 (J. Wilcox) JW, S. Fork Mdw., VI-47, VI-21 '48 (A. L. Melander, John L. Sperry) USNM.

(1) trux McAtee, 1919: 158.

Type ♂, Los Angeles Co., Cal. (Coquillett), USNM.

carbonarius McAtee, 1919: 158, are ♀♀ of trux.

anthrax Williston, 1884: 29.

Type ♀, northern California (O. T. Baron) UK.

carbonarius Snow, 1895: 181 (name for anthrax Williston not Meigen).

This may be the proper name for these flies but there are other flies in northern California that agree with the descriptions that are not related to trux McAtee.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Los Angeles, Riverside, Santa Barbara, San Diego, San Bernardino, Shasta and Ventura Counties.

Los Angeles Co.: (D. W. Coquillett) USNM; Crystal Lake, 4700', VII-9 '52 (B. M. Bartosh, R. M. Bohart, A. A. Grigarick, S. Miyagawa, N. Nakata, D. S. Thompson) UCD; Mt. Wilson, VI-8 '40 (G. P. McKenzie) JW; Tanbark Flat, VI-21, VII-3 '50, VI-23 '52 (J. W. MacSwain) CIS, (R. E. McKenzie, K. G. Whitesell) UCD; Wrightwood, VII-7 '52 (C. H. Martin, J. Wilcox) JW, CHM.

Riverside Co.: Keen Camp, San Jacinto Mtd., VI-10 '39 (C. L. Townsend) CIS.

San Bernardino Co.: (D. W. Coquillett) USNM; 4 mi. W. Cajon Jet., VII-4 '58 (J. C. Hall, E. I. Schlinger) UCD; 2.3 mi. S. Camp Angelus, VI-26 '60, LACMNH; Camp Cajon, V-20 '34 (C. M. Dammers) USNM; Forest Home, VI-19 '28 (E. C. Van Dyke) CAS; Sheep Cyn., VI-26 '25, JW.

San Diego Co.: nr. Boulder Oaks, (David Peterson) UCR; Campo, VIII-10 '35 (Jean Russell) UK; Kearny Mesa, VI-20 '38, USNM; Laguna Mts., VI-19 '20 (W. S. Wright) SDNHM; The Willows, VI-14 '57 (C. L. Hogue) LACMNH; S. W. of Tragedy Spgs., VII-9 '68 (Fred G. Andrews) UCR; Warners, VI '22, VII '19 (Geo. H. Field) SDNHM.

(2) trux audax McAtee, 1919: 158.

Type ♂, San Bernardino Co., Cal. (Coquillett), USNM.

Geographic range: USA (California).

California records:

Los Angeles Co.: (Coquillett), USNM.

San Bernardino Co.: (Coquillett) USNM.

San Diego Co.: 969, SDNHM; Laguna Mts., 1 mi. N. Hwy. 80, VI-13 '60 (G. H. Nelson) FSCA; San Diego (Geo. H. Field) SDNHM.

(3) vivax Williston, 1835: 50.

Type ♂, Washington Territory (H. K. Morrison), UK.

Geographic range: Canada (British Columbia); USA (California, Colorado, New Mexico, Oregon and Washington).

California records: Eldorado, Inyo, Mariposa, Plumas, San Mateo and Santa Clara Counties.

Inyo Co.: Mono Pass (N. W. Inyo), 12000', VII-9 '61 (C. D. MacNeill) CAS, VII-12 '64 (J. R. Birchim, C. D. MacNeill) CAS.

## Genus Pogonosoma Rondani

Pogonosoma Rondani, 1856: 160.Type-species, Asilus maroccanum Fabricius.(3) hesperium Martin, 1966: 160.

Type ♂, Crystal road, Cal., ♀, Redding, Cal., CAS.

Geographic range: USA (California and Oregon).

California records: Kern. Lake, Los Angeles, Plumas, Riverside, San Bernardino, San Diego, Santa Clara, Shasta, Tulare and Yolo Counties.

Los Angeles Co.: Crystal Lake road, 4700', VII-9 '52 (J. H. Nakota) CAS, (R. M. Bohart) UCD, VI-26 '50 (K. G. Whitesell) USNM.

Riverside Co.: Idyllwild, VI-7 '40, USNM.

San Bernardino Co.: Forest Home, Mill Crk., VIII-28 '58 (J. C. Hall) UCD.

San Diego Co.: Julian, Spencer Vly., VII-28 '63 (D. E. Rich)

Quercus, EMF; Palomar Mt., 5000', VI-27 '56 (Bernard Bailey) SDNHM, Nate Harrison Grade, 3200-3500, VI-2 '68 (L. Brattston) among decaying logs, UCR.



Subfamily Laphystiinae G. H. Hardy (1948)

Genus Laphystia Loew

Laphystia Loew, 1847: 538.

Type-species, sabulicola Loew.

(2) duncani Wilcox, 1960: 334.

Types ♂♀, Tempe, Arizona, CAS.

Geographic range: USA (Arizona and California).

California records:

Imperial Co.: El Centro, IV-19 '54 (R. Van Den Bosch) alfalfa,

UCD; Potholes, IV-11 '23 (E. P. Van Duzee) CAS.

Riverside Co.: Blythe, IV-5 '51 (J. W. MacSwain) CAS.

(7) howlandi Wilcox, 1960: 335.

Types ♂♀, Indio, Cal., CAS.

Geographic range: USA (Arizona and California).

Imperial Co.: 12 mi. E. Heber, V-11 to 23 '56 (T. R. Haig) UCD;

Laguna Lake, VI-9, 11 '50, LAGUNH; Palo Verde, 245', VII-12 '66

(J. M. Davidson, M. A. Cazier) Atriplex lentiformis (Torr.) Wats.

(Quail Brush), ASU.

Riverside Co.: Indio, V-13 to '25 '48 and 9 mi. S., IV-1, V-12 to

19 '48 (A. F. Howland, J. Wilcox) JW.

(7) martini Wilcox, 1960: 338.

Types ♂♀, Temecula, Cal., CAS.

Geographic range: USA (California).

California records:

Imperial Co.: Calipatria, V-26 '56 (T. R. Haig) UCD.

Riverside Co.: Temecula, VI-30 to VII-21 '56 (C. H. and D. Martin),  
Guy F. Toland, J. Wilcox) CHM, JW.

San Diego Co.: Borrego Vly., dunes, IV-18 '57 (R. C. Bechtel,  
J. C. Hall) UCD.

(4) tolandi Wilcox, 1960: 344.

Types ♂♀, Lahontan<sup>a</sup> Reservoir, Nevada, CAS,

Geographic range: USA (California, Idaho, Nevada and Utah).

California records: In Modoc and Inyo Counties.

Inyo Co.: Death Vly., 0.3 mi. N. Bennett's Well, IV-17 '73

(G. R. Ballmer, J. D. Pinto) UCR.

(2) utahensis Wilcox, 1960: ~~344~~ 345.

Types ♂♀, 12 mi. N. E. St. George, Utah, CAS.

Geographic range: USA (Arizona, California and Utah).

California records:

Riverside Co.: Blythe, V-1 '47 (A. L. Melander) USNM.

(2) jamesi Wilcox, 1960: 336.

Types ♂♀, Long Beach, Cal., M. T. James Collection.

Geographic range: USA (California).

California records: Los Angeles, Riverside and San Diego Counties.

Riverside Co.: 8 mi. E. Sunnymead, V-7 '66 (Eric Fisher) EMF;  
Temecula, V-10 to VI-15 '44 to '48 (A. L. Melander) USNM. We have  
previously classed this as a coastal species but it appears to do very  
well in semi-desert areas.

Genus *Zabrops* HullZabrops Hull, 1957: 90.Type-species, Triclis tagax Williston.(5) tagax tagax (Williston) 1885: 9 (Triclis).

Type ♀, Kern Co., Cal., UK

Geographic range: USA (Arizona and California; Mexico (Sonora).

California records:

Los Angeles Co.: Piute Butte (May 12).

Imperial Co.: Truckhaven (Apr. 5).

Riverside Co.: Indio and 5 mi. S., Palm Springs, Thousand Palms,  
10 mi. E. of Whitewater; (Febr. 26 to Apr. 29).San Bernardino Co.: Adelanto, Barstow, Goffs and Yermo (March 25  
to April 25).San Diego Co.: Borrego Vly.; Borrego Spgs., Tub Cyn., and Coyote  
Crk.; and 4.5 mi. N. of Ccotillo (Mar. 7 to Apr. 9).

Above data from Fisher (1977).

(2) tagax arcuatus Fisher, 1977: 204.

Types ♂♀, 7 mi. N. W. Rosario, Baja Cal., CAS.

Geographic range: USA (California); Mexico (Baja California).

California records: Los Angeles and Riverside Counties mainly  
west of mountains.Riverside Co.: Lk. Matthews, IV-16 '53 (A. L. Melander) USNM;  
8 mi. E. Sunnymead, IV-12 '53 (E. I. Schlinger) UCD, CHM.

Subfamily Leptogastrinae Schiner (1862)

Family Leptogastridae Martin (1966)

The Leptogastrinae was not accepted by the 19th Century authors as a subfamily separate from the Dasypogoninae. In the 20th Century it was recognized as a separate subfamily until Martin (1966) raised it to family rank. This has not been accepted by several authorities so for the present it is retained in the Asilidae.

Genus Apachekolos Martin

Apachekolos Martin, 1957: 354.

Type-species, Leptoraster scapularis Bigot.

(2) crinita Martin, 1957: 354.

Type ♂, Pie Town, New Mexico, AMNH, ♀, Magdalena, New Mexico, OSU.

Geographic range: USA (Arizona, California, New Mexico and Oregon); Mexico (Sonora).

California records:

Riverside Co.: Joshua Tree N. M., Smith Water Wash, IX-25 '60  
(W. Knox, E. L. Sleeper) CSULB.

(1a) scapularis (Bigot), 1878: 444 (Leptoraster).

Type ♂, California, Hope Museum, Oxford.

Geographic range: USA (California and Texas); Mexico (Baja California N.).

California records: Alameda, Contra Costa, Del Norte, Eldorado, Fresno, Los Angeles, Marin, Monterey, Napa, Riverside, San Benito, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Santa Clara and Ventura.



Los Angeles Co.: Palmdale, V-29 '48 (J. Wilcox) JW; Tanbark Flat, VII-5 '52, VII-12, 18 '56 (R. C. Bechtel, R. M. Bohart) UCD.

Riverside Co.: Deep Cyn., 3200', VI-27 '65 (G. R. Ballmer) UCR, upper Horsethief Crk., 3400', VI-11 '65 (Hilary Ewing, M. E. Irwin, R. E. Somerby) UCR; 4 mi. E. Elsinor, R. R. Cyn., IV-17 '65 (C. A. Toschi) CIS; Riverside, VI-9 '38, VII-7 '34 (P. H. Timberlake) UCR, VIII-8, 10 '56 (E. I. Schlinger) UCD, X-25 '53 (A. L. Melander) USNM.

San Bernardino Co.: Thurman Flats, 3360', X-22 '65 (P. T. and P. H. Arnaud, Jr.) CAS.

San Diego Co.: Jacumba, IV, V-~~45~~ '53 (C. H. Martin, J. Wilcox) CHM, JW; La Mesa, V-21, VI-4 '53 (F. X. Williams) CAS; Mission Gorge, V-24 '59 (R. A. Mackie) UI; Poway, VIII-15 '86 (F. E. Blaisdell) CAS.

#### Genus *Beameromyia* Martin

Beameromyia Martin, 1957: 355.

Type-species, Leptoraster pictus Loew.

(2) bifida (Hardy), 1942: 59 (Leptoraster).

Types ♂♀, Ruby, Arizona, UK.

Geographic range: USA (Arizona and California).

California records:

~~Riverside Co.: 3200' Deep Cyn., VI-27 '65 (G. R. Ballmer) UCR, upper Horsethief Crk., 3400' VI-11 '65 (Hilary Ewing, M. E. Irwin, R. E. Somerby) UCR; 4 mi. E. Elsinor, R. R. Cyn., IV-17 '65 (C. A. Toschi) CIS; Riverside, VI-9 '38, VII-7 '34 (P. H. Timberlake) UCR, VIII-8, 10 '56 (E. I. Schlinger) UCD, X-25 '53 (A. L. Melander) USNM.~~  
 San Diego Co.: Escondido, VII-15 '41 (E. L. Todd) UK.

(2) lacinia Martin, 1957: 358.

Types ♂♀, Santa Rita Mts., Arizona, UK.

Geographic range: USA (Arizona and California).

Riverside Co.: Anza, VII-12 '41 (L. H. Banker) UK.

San Diego Co.: <sup>G</sup>Euatay, VII-12 '41 (L. H. Banker) UK.

Genus Leptogaster Meigen

Leptogaster Meigen, 1803: 269.

Type-species, Asilus tipuloides Fabricius, equals Asilus cylindricus De Geer.

(2) arborcola Martin, 1957: 368.

Types ♂♀, Santa Rita Mts., Arizona, AMNH.

Geographic range: USA (Arizona and California).

California records:

Inyo Co.: White Mts., VII-15 '61 (E. I. Schlinger) UCR.

(2) aridus Cole, 1919: 229.

Types ♂♀, Hood River and Forest Grove, Oregon, CAS.

Geographic range: USA (Arizona, California and Oregon).

California records: Butte, Eldorado, Onyo, Los Angeles, Monterey, Napa, San Bernardino. San Diego, San Luis Obispo, Sierra, Tuolumne and Ventura Counties.

Inyo Co.: Bigpine, Glacier Lodge, 8000-9000', VIII-8, 9 '57 (Dorothy and C. H. Martin, J. Wilcox) CHM, JW; Whitney Portal, VIII-6 '48 (P. D. Hurd, J. W. MacSwain) CIS.

Los Angeles Co.: Tanbark Flat, VI-18 to VII-15 '56, VI-23 '50 (R. C. Bechtel, R. M. Bohart, W. A. McDonald, H. R. Moffitt) UCD, VI-25 '52 (J. W. MacSwain) CIS.

San Bernardino Co.: 20 mi. N. Adelanto, IV-18 '62 (E. I. Schlinger)  
UCR; Big Bear Lk., Kanna Flats, VIII-15 '51 (C. H. Martin, Guy F. Toland,  
J. Wilcox) CHM, JW; Forest Home, VIII-22 '53 (J. C. Hall) UCD.

(2) californica Martin, 1957: 373.

Types ♂♀, Monrovia Canyon, Cal., AMNH.

Geographic range: USA (California).

California records: Inyo, Kern, Los Angeles, Mariposa, Monterey,  
Placer, Plumas, Riverside, San Bernardino, Tulare and Tuolumne Counties.

Inyo Co.: Bishop, VIII-4 '37 (G. E. and R. M. Bohart) UCD.

Kern Co.: Walker Pass, VII-13 '61 (E. I. Schlinger) UCD.

Los Angeles Co.: Monrovia Cyn., VI-7 to VII-2 '31 (C. H. and  
D. Martin) CHM; Tanbark Flat, VI-20 to VII-13 '50, VI-19 to VII-14 '56  
(D. F. Barnes, R. C. Bechtel, R. M. Bohart, J. C. Hall, W. A. McDonald,  
R. E. McKenzie, J. W. MacSwain, J. J. Menn, C. D. Michener, S. Miyagawa,  
H. R. Moffitt, H. E. Robinson, E. I. Schlinger, K. G. Whitesell, F. X.  
Williams) CAS, CIS, UCD.

Riverside Co.: Herkey Crk., San Jacinto Mts., VI-4 '40 (C. D.  
Michener) CAS; Idyllwild Road, VII-22 '30 (R. H. Painter, T. F. Winburn)  
RHP; Millard Cyn., Kitchen Peak Rd., VI-20 '63 (E. I. Schlinger) UCR;  
Mt. San Jacinto, 4000', VI-12 '42 (R. M. Bohart) UCD; Riverside, IV-22 '28  
(P. H. Timberlake) UCR; White Water Cyn., X-5 '61 (L. D. Anderson) UCR.

San Bernardino Co.: S. E., 3000', VI-8 '30 (Hall and Hall) JW.

(2) cultaventris Martin, 1957: 375.

Types ♂2, Danville, Cal., CAS.

Geographic range: USA (California, Oregon and Washington).

California records: Alameda, Contra Costa, Los Angeles, Madera, Mariposa, Nevada, Riverside, Santa Clara, Santa Cruz, Trinity and Tulare Counties.

Los Angeles Co.: Monrovia Cyn., VI-7 '51 (C. H. Martin) CHM.

Riverside Co.: Cabazon, VI-1 '41 (E. C. Van Dyke) CAS; Dark Cyn., San Jacinto Mts., VI-6 '39 (E. S. Ross) CAS.

(2) fornicata Martin, 1957: 37.

Types ♂2, Long Vly., Alpha, Idaho, VI-17 '34 (C. H. Martin), AMNH.

Geographic range: USA (~~Arizona~~ California, Idaho and Oregon).

California records:

Kern Co.: Rosamond, 2 mi. N., V-12 '56 (E. G. Linsley) CIS.

(4) specios, new

USA

Geographic range: (Arizona, California and Oregon).

California records:

Inyo Co.: Cedar Flat, Westgard Pass, VIII-21 '63 (H. B. Leech) CAS.



Subfamily Ommatinae Wiedemann (1821)

Ommatius Wiedemann, 1821: 213.

Type-species, Asilus marginellus Fabricius.

California records: None. There are seven species in Arizona one of which might be found in California.

maculatus Banks, 1911: 128.

Type ♂, Bill Williams Fork, Arizona, VIII (F. H. Snow) MCZ.

The locality on the Bill Williams River which flows west into the Colorado River above the Parker Dam, is about 30 miles from the ~~Arizona~~ California line in Yuma County, Arizona and shown on some maps as the town of Alamo. This fly has also been taken in Gila, Graham, Maricopa, Pima and Pinal Counties of Arizona.

Subfamily Stenopogoninae Hull (1962)

Genus Ablautus Loew

Ablautus Loew, 1866: 37.

Type-species, trifarius Loew.

(2) arnaudi Wilcox, 1966: 675.

Types ♂♀, San Felipe, Baja California N., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records: north of Indio, II-27 '30 (C. H. Martin) CHM;

1 mi. E. Palm Springs, II-1 '71 (J. Wilcox) JW; Thousand Palms,

II-8 '64 (M. E. Irwin) UCR, 2.5 mi. E., II-1 '71 (Eric Fisher, J.

Wilcox) EMF, JW; 10 mi. E. Whitewater, III-13 '60 (R. M. Bohart) UCD.

(7) basini Wilcox, 1966: 676.

Types ♂♀, ~~Kramer~~<sup>1\*</sup> Hills, San Bernardino Co., Cal., UCR-CAS.

Geographic range: USA (California and Nevada).

California records:

Inyo Co.: ~~xxxxxxxInyoxxxxxx~~ Independence, 11 mi. N., III-23 '40  
15 mi. NE, Inyo Mts., 6500', VI-11 '49 (P. Rude) UCR;  
(B. Brookman) CAS; Lone Pine, 4 mi. S. E., III-23 '40 (B. Brookman)

CAS, 1 mi. S. E., V-5 '66 (J. Wilcox) JW.

Kern Co.: 6 mi. W. Inyokern, Short Cyn., III-19 '60 (E. G. Linsley)

CIS, IV-5 '58 (R. M. Bohart, R. Schuster) UCD; 6 mi. E. Mojave, IV-12 '58  
(E. G. Linsley) CIS, 28 mi. N., III-24 '68 (R. L. Penrose, S. M. Hogue) UI.

Los Angeles Co.: 4 mi. E. Lancaster, IV-30 '68 (F. G. Andrews) UCR;

8 mi. N. Llano, IV-11 '62 (J. C. Hall, E. I. Schlinger) UCR; Piute

Butte, IV-26, VI-14 '57 (Itol J. and J. Wilcox) JW.

San Bernardino Co.: 6 mi. E. Dale Dry Lk. (M. E. Irwin, R. Dickson)  
 Kelsey, IV-24 '71 (M. E. Irwin) sand dunes, UCR;  
 dune under Larrea, UCR; Kramer Hills, III-18 to IV-25 '53-'68 (J. C.  
 Hall, M. E. Irwin, S. I. Schlinger) prey Lygus bug, UCR, (P. D. Hurd,  
 G. I. Stage) CIS; Saddleback Butte, VI-20 '59 (L. A. Dawson) UCD;  
 Vidal Jct., II-22 '51 (C. D. MacNeill) CIS.

(4) californicus Wilcox, 1935: 226.

Type ♂, Palmdale, Cal., CAS.

Geographic range: USA (California and Nevada).

California records: Inyo, Kern, Los Angeles, Mono, Riverside,  
 San Bernardino and San Diego Counties; January to April. All desert  
 localities practically, many records. See pp. 108a, 108b.

(7) coachellus Wilcox, 1966: 677.

Types ♂♂, Indio, Cal., CAS.

Geographic range: USA (California).

California records:

Inyo Co.: Death Vly., Shorty's Well, II-18 '70 (Eric Fisher) EMF.

Riverside Co.: Indio, X-14, XI-11 '47, XI-18 '41 (J. Wilcox) JW;

5 mi. S. Oasis, XI-15 '47, XI-18 '55 and 2 mi. S. XII-3 '47 (J. Wilcox) JW.

San Bernardino Co.: 2 mi. N. E. Twentynine Palms, X-21 '68, X-23,  
 XI-6 '67 (Eric Fisher, J. Wilcox) EMF, JW.

(1b) coquilletti Wilcox, 1935: 226.

Types ♂♂, Los Angeles Co. Cal., V (D. W. Coquillett), USNM.

Geographic range: USA (Arizona, California, New Mexico and Utah);  
 Mexico (Baja California N. and Sonora).

California Records: Fresno, Inyo, Kern, Los Angeles, Orange,  
 Riverside, San Bernardino, San Luis Obispo and Ventura Counties; March  
 to June. Many records from desert areas. See p. 108c.

*Inyo Mts., 15 mi. N.E. Independence, 8000', VI-11 '69 (P. Ride) CIS;*

Inyo Co.: <sup>^</sup> Little Lake, 5 mi. N., IV-20 '62 (J. W. MacSwain) CIS.

Kern Co.: Dove Well, V-1 '64 (J. Powell, P. Ride) CIS; Inyokern, 6.5 mi. N., IV-11 '54, '62 (J. W. MacSwain, R. W. Thorp) CIS; Mojave, 6 mi. E., IV-12 '53 (S. G. Linsley) CIS; Red Rock Cyn., 25 mi. N.E. Mojave, IV-14 '62 (R. Brown, C. D. MacNeill, D. C. Rentz) CAS; Rosamond, III-15 '41 (J. Wilcox) JW; Short Cyn., 6 mi. W. Inyokern, IV-11, 18 '54, '62, III-15, IV-3 '55, III-30 '53 (P. D. Hurd, E. G. Linsley, J. W. MacSwain, J. R. Powers, G. I. Stage, R. W. Thorp, M. Wasbauer) CIS, IV-15 '68 (R. M. Bohart, R. O. Schuster) UCD; Walker Pass, V-14 '63 (J. Wilcox) JW.

Los Angeles Co.: Juniper Hills, Mojave Desert, 3400-3600', I-20, II-2 '65 (C. Henne) alighting on ground, midday and mid afternoon, JW; Littlerock, II-6 '62 (H. R. Moffitt) UCR, III-18 '57 (J. Wilcox) JW; Palmdale, III-18 '57 (J. Wilcox) JW, III-19 '31, Type ♂, CAS.

Riverside Co.: Carrizo Spg., 2400', III-1 '63 (E. I. Schlinger)  
<sup>10 localities, I-7 to IV-29, CSULB, EF,</sup>  
 UCR; Joshua Tree N.M., <sup>^</sup> IV-21 '42 (A. L. Welander) USNM, 10 mi. N. W. XII-22 '72 (S. Frommer, Ali Tabet) UCR, Cottonwood Spg., IV-11 '63 (P. D. Hurd) CIS; Deep Cyn., <sup>^</sup> III-6 '63 (E. I. Schlinger) UCR; Pinyon Flat, IV-7, 13 '63 (D. S. Bright, J. Powell, C. A. Raschi) CIS; N. Palm Springs, 3 mi. E., I-25 '65 (M. E. Irwin, Saul Frommer) UCR; White Water, III-18 '60 (R. M. Bohart) UCD.

San Bernardino Co.: Adelanto, 11 mi. S., III-10 to 30 '57, III-18 '65, IV-4 '62, IV-14 '57 (Itol J. and J. Wilcox) JW; Box Spgs., 6 mi. S. E. Lucerne Vly., IV-15 '64 (D. D. Linsdale) CIS; Cajon Pass, 3.5 mi. E. Summit, IV-30 '64 (J. Wilcox) JW; Cronise Vly., II-14, XI-14 '65 (M. E. Irwin) dunes, UCR, IV-3 '53 (J. W. MacSwain) CIS; Desert Spgs., 5 mi. W., IV-11 '62 (J. C. Hall, E. I. Schlinger) UCR; Granite Pass, IV-26 '68 (E. M. Bellet) UCR; Hesperia, 4 mi. W., IV-13 '62 (R. M. Bohart) UCD; Joshua Tree, 3 mi. E., III-31 '66 (J. Wilcox) JW; Mojave R. and Deep



## San Bernardino Co., cont'd.

Crk., IV-18 '65 (M. W. Stone, J. Wilcox) JW; Morongo Lakes Morongo Vly., II-20 '66 (G. R. Ballmer) UCR; New York Mts., 3 mi. S. W. Barnwell, IV-2 '70 (R. E. Dietz) CIS; Sheep Crk. Cyn., nr. Phelan, V-9 '49 (A. L. Melander) USNM; Twentynine Palms, III-31 '66 (J. Wilcox) JW; Yucca Vly., 6 mi. E., III-31, IV-11 '66 (J. Wilcox) tiny moth prey, JW.

San Diego Co.: Borrego, II-28, III-15 '50 (Grace H. and John L. Sperry) USNM, III-4 '64 (J. Wilcox) JW, IV-11 '52 (E. G. Linsley) Phacelia, CIS; Dos Cabezas, III-28 '61 (R. L. Langston) CIS; Earthquake Vly., IV-21, 22 '49 (Noel Crivkmer) USNM; 4 mi. E. Jacuma<sup>b</sup>, IV-21 '66 (M. W. Stone, J. Wilcox) JW; Callecito Spg., III-15 '68 (J. C. Hall) UCR.

Inyo Co.: Olancha, V-9 '63 (G. E. Bohart) Malacothrix, USU.

Kern Co.: nr. Red Rock Cyn., 25 mi. N. E. Mojave, IV-14 '62  
(C. D. MacNeill) D. C. Rentz, R. Brown) CAS; 2 mi. N. Rosamond,  
IV-12 '56 (E. G. Linsley) CIS.

Los Angeles Co.: V (D. W. Coquillett) USNM; Lancaster, V-1 '63  
(O. L. Brawner) Coreopsis, UCD, 5 mi. S., V-15 '56 (E. G. Linsley,  
J. W. MacSwain) CIS; Littlerock, V-16 '43 (J. Wilcox) JW; Llano,  
IV-11 '62 (J. C. Hall, E. I. Schlinger) UCR; Palles Crk., IV-19 '51  
(C. D. MacNeill) CIS; Pear Blossom, 4 mi. E., V-29 '64 (M. J. Wargo)  
UCR.

Riverside Co.: Indio, II, III, IV, '41, '42, '45, '48 (A. F.  
*Joshua Tree N.M., 4 localities, V-4 to VI-6, CSULB, EF*  
Howland, J. Wilcox) JW; <sup>1</sup> Palm Springs, IV-199 '45 (J. Wilcox) JW,  
3 mi. N. & 3 mi. E., II-25, III-5 '68 (M. E. Irwin) sand dune assoc.,  
UCR; Pinyon Flat, IV-23 '51, V-4 '58 (C. D. MacNeill) CIS, V-10 '53,  
V-27 '64 (J. Wilcox) JW; Thousand Palms, III-24 '57 (J. C. Hall) UCD;  
White Water, II-28 '63, IV-8 '64, V-2 '45 (A. F. Howland, M. W. Stone,  
J. Wilcox) JW, Cyn., IV-2 '48 (J. W. MacSwain) CIS.

San Bernardino Co.: Adelanto, 5 mi. N., V-4 '66 (J. C. Hall, Saul  
Frommer) garbage dump, UCR, 21 mi. N., V-13 '63 (J. Wilcox) JW, 11 mi.  
S., V-4, 25 '57, V-6 '56 (J. Wilcox) JW; Kramer Hills, IV-12 '64,  
IV-19 '59 (J. C. Hall, M. E. Irwin, E. I. Schlinger) UCD, UCR, V-1, 4 '53  
(P. D. Hurd) CIS, *Oro Grande, V-15 '48 (J. Wilcox) JW*.

San Diego Co.: Borrego S. P., Coyote Cyn., IV-6 '64 (M. E. Irwin)  
UCR; Scissors Crossing, 4 mi. S., IV-21 '66 (J. Wilcox) JW.

(1b) flavipes Coquillett, 1904: 178.

Types ♂♀, Los Angeles and San Diego Counties, Cal., USNM.

Geographic range: USA (Arizona and California); Mexico (Baja California N. and Sonora).

California records: Imperial, Inyo, Los Angeles, San Bernardino, and San Diego Counties; March to May; many desert localities. *See p. 109a.*

(7) linsleyi Wilcox, 1966: 679.

Types ♂♀, Short Cyn., Cal., CIS-CAS.

California records:

Kern Co.: 6 mi. W. Inyokern, Short Cyn., III-19, 31 '60, III-29 '59, IV-11 '54 & '62 (E. G. Linsley, J. W. MacSwain, J. R. Powers, G. I. Stage, R. W. Thorp) CIS; 7 mi. N. W. Inyokern, Short Cyn., II-23 '70 (Eric Fisher) EMP, III-15 '55 (J. W. MacSwain) CIS; Short Cyn., IV-5 '68 (R. M. Bohart, R. O. Schuster) UCD.

(1b) minus Osten Sacken, 1877: 290.

Types ♂♀, Crafton, Cal., MCZ.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Imperial, Kern, Los Angeles, Riverside, San Bernardino, San Diego, Tulare and Ventura Counties; February to May. Many records from desert localities. *See pp. 109b, 109c.*

(3) minus squamipes Cole, 1924: 11.

Types ♂, Chiricahua Mts., Arizona, CAS.

Geographic range: USA (Arizona and California).

S.Bdo.

California records: ~~Yavapai~~ Co.: 12 mi. S. E. Ivanpah, V-1 '56 (B. J. Adelson, P. D. Hurd) CIS. Inyo Co.: Independence, 11 mi. N., III-23 '40 (B. Brookman) CAS; Lone Pine, 4 mi. S. E., III-23 '40 (B. Brookman) CAS.

Imperial Co.: Glamis, 6.2 mi. W., III-17 '69 (M. E. Irwin) Sand dune Assoc., UCR; Holtville, 8 mi. E., III-27 '68 (R. L. Westcott) UI; Palo Verde, IV-1, 2 '68 (R. M. Bohart, R. O. Schuster) UCD, IV-5 '64 (M. E. Irwin) UCR, 3 mi. S., IV-9 '63 (C. Tamaki) CIS.

Inyo Co.: Saratoga Spgs., V-5 '60 (A. S. Menke) UCD. (*Death Vly., S. B. d. Co.*)

Kern Co.: Short Cyn., IV-5 '68 (R. M. Bohart) UCD.

Los Angeles Co.: V (D. W. Coquillett) USNM.

Riverside Co.: Blythe, IV-10 '48 (Guy F. Toland, J. Wilcox) JW, 10 mi. W., IV-8 '64 (J. Wilcox) JW, 22 mi. W., IV-9 '63 (E. I. Schlinger) UCR; Hopkins Well, IV-29 '52 (J. G. Rozen) CIS; Palm Springs, IV-4 '35 (A. L. Melander) USNM; White Water, 10 mi. E., III-18 '60 (R. M. Bohart) UCD. ~~XXXX~~

San Bernardino Co.: Cronise Vly., IV-5 '66 (R. M. Bohart) UCD, *4.2 mi. N. Goffs, V-3 '71 (M. E. Irwin)* IV-29 '56 (P. D. Hurd, J. Powell, M. Wasbauer) Proscopia, CIS; Ivanpah, *Kelso, IV-24 '71 (M. E. Irwin) sand dunes, UCR*, 12 mi. S. E., V-1 '56 (P. D. Hurd) CIS; <sup>^</sup>Needles, III-20 '67 (R. O. Schuster) UCD, IV-21 '66 (Torchio, Rust, Yousef) USU; Vidal, 27 mi. N., IV-15 '38 (J. W. MacSwain) CIS; Yermo, IV-12, 28 '66 (J. Wilcox) JW, IV-28 '49 (E. G. Linsley, J. W. MacSwain, R. F. Smith) Taraxcum, CIS.

San Diego Co.: V (D. W. Coquillett) USNM; Agua Caliente Spgs., III-31 '42 (J. Wilcox) JW; Borrego, III-31, IV-1, 2 '53, IV-24 '49 (J. E. Gillaspay, P. D. Hurd) CIS, IV-18 '37 (P. H. Timberlake) UCR, Palm Cyn., III-26 '59, IV-7 '54 (R. M. Bohart) UCD, Vly., dunes, III-26 '59, IV-1 '67, IV-18, 20 '57 (R. C. Bechtel, R. M. Bohart, H. R. Moffitt, E. I. Schlinger, J. E. Slansky) UCD, Tub Cyn., IV-20 '49, (Noel Crickmer) USNM, Spgs., III-30 '60 (M. Wasbauer) CDA, 6-6.5 N. Jet. Spgs. Rd., Di Giorgio Rd. and Coyote Crk., IV-5 '68 (Saul and Suzy Frommer) UCR; 4 mi. S. E. Dry Lake (Cocotillo Wells), IV-4 '42 (J. Wilcox) JW.



Imperial Co.: Glamis, 3.5 mi. N. W., IV-12 '68 (E. M. Bellet) UCR.

Kern Co.: Dove, V-1 '64 (J. Powell, P. Rude) CIS, Spgs. Cyn.,  
3/4 mi. N. Ricardo, W. of Hwy. 6, III-15 '60 (C. A. Toschi) CIS;  
Short Cyn., 6 mi. W. Inyokern, IV-5 '68 (R. O. Schuster) UCD, IV-11 '54  
(J. W. MacSwain) CIS; Walker Pass, V-18 '56 (J. Wilcox) JW, 1 mi. W.,  
IV-26 '64 (J. Doyen, R. L. Langston, P. Rude, W. Turner) CIS, 3 mi. W.,  
Canebrake Crk., IV-30 '64 (J. Powell, C. A. Toschi) CIS.

Los Angeles Co.: Juniper hills, Mojave Desert, 3600', II-2 '65  
(C. Henne) alighting on ground, midday, JW; Littlerock, II-6 '62 (H. R.  
Moffitt) UCR, III-23 '41 (J. Wilcox) JW; upper Mint Cyn., III-18 '65  
(C. Henne) JW; Palmdale, III-23, IV-27 '41, V-2 '48 (Guy F. Toland,  
J. Wilcox) JW; Pearblossom, V-13 '56 (E. G. Linsley) CIS; Red Rover  
Cyn., N. W. Acton, 3600', II-18 '65 (C. Henne) alighting on ground,  
mid-afternoon, JW; Three Points, 6 mi. N. E., IV-11 '62 (J. C. Hall,  
E. I. Schlinger) UCR.

Riverside Co.: Deep Cyn., upper, III-19 '65 (M. E. Irwin) UCR;  
*Joshua Tree N.M., Pinyon Wells, III-2 to IV-29, CSULB, EF;*  
Pinyon Flat, IV-12, 13 '63 (J. Powell, C. Toschi) 2 pair in copula,  
winged ant prey, CIS, V-8 '48 (J. Wilcox) JW; Toro Crk. 2 mi. W.,  
Hwy. 74, III-19 '65 (M. E. Irwin, E. I. Schlinger) UCR.

San Bernardino Co.: Adelanto, nr., IV-28 '49 (A. L. Melander) USNM,  
11 mi. S., III-18 '65, IV-7, 14 '57, V-13 '63 (J. Wilcox) JW; Cajon  
Pass, IV-28 '49 (A. L. Melander) USNM, V-6 '56 (J. Wilcox) JW, 2 mi. N.,  
III-18 '65 (M. W. Stone, J. Wilcox) JW, 3.5 mi. E. of summit, IV-30 '64  
(J. Wilcox) JW; Deep Crk., mouth of, IV-3 '62 (J. C. Hall) UCR, and  
*Joshua Tree N.M., Lower Covington Flat, III-2 to IV-29, CSULB, EF;*  
Mojave R., III-18 '65, IV-27 '41 (M. W. Stone, J. Wilcox) JW; Phelan,  
V-12 '63 (J. C. Hall) UCR, 2 mi. W., V-22 '57 (E. I. Schlinger) UCR,  
nr., Sheep Crk. Cyn., IV-21 to V-9 '49, IV-25 '46, V-1 '46, V-5 '50,  
V-24 '45 (A. L. Melander) USNM; Victorville, IV-14 '64 (D. D. Linsdale) CIS.

San Diego Co.: 4 mi. E. Jacumba, IV-21 '66 (J. Wilcox) JW;  
Warner Spgs., IV-30, V-3 '62 (Ito J. and J. Wilcox) JW.

(1b) vanduzeei Wilcox, 1935: 225.

Type ♂, Coalinga, Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Fresno, San Benito, Santa Barbara and Ventura Counties; March and April. Not desert localities.

Kern Co.: Dove Spgs. Cyn., 3/4 mi. N. Ricardo, W. of Hwy. 6,  
III-15 '60 (C. A. Toschi) CIS; Tehachapi, IV-19 '31 (A. C. Browne)  
pear orchard, ODA; 1 mi. W. Walker Pass, IV-25 '64 (P. Rude) CIS;  
5.5 mi. N. Willow <sup>S</sup>Spgs., III-5 '66 (J. W. MacSwain) CIS.

Riverside Co.: Garner Vly., III-19 '65 (M. E. Irwin, E. I.  
Schlinger) UCR.

San Bernardino Co.: nr. Adelanto, IV-28 '48 (A. L. Melander) USNM.

San Diego Co.: 5 mi. N. Warner Spgs., IV-30, <sup>V</sup>~~IV~~-3 '62; IV-15 '64,  
IV-21 '66. (Itol J. and J. Wilcox) JW.

Genus *Backomyia* Wilcox and MartinBackomyia Wilcox & Martin, 1957: 1.Type-species, Eucyrtopogon limpidicennis Wilcox.(7) anomalous Wilcox & Martin, 1957: 4.

Types ♂♀, White Water, Cal., CAS.

Geographic range: USA (California).

California records:

Riverside Co.: Palm Springs, I-2 '54 (P. H. Arnaud, Jr.) JW;

White Water, XI-25 '47 (J. Wilcox) CAS.

(3) hannai Wilcox & Martin, 1957: 4.

Types ♂♀, Hanna Flats, Cal., CAS.

Geographic range: USA (California).

California records:

San Bernardino Co.: Barton Flat, 6500', X-30 '63 (M. W. Stone, J. Wilcox) JW; Big Bear Lake, Hanna Flats and Baldwin Lk., IX-18 '48 (Guy F. Toland, J. Wilcox) CAS, JW; Morongo Vly., XI-23 '63 (Eric Fisher) EMF; Onyx Summit, IX-16 '64 (J. Wilcox) JW.

(7) species, new ?

Geographic range: USA (California).

California Records:

Inyo Co.: Westgard Pass, IX-15 '63 (J. Wilcox) JW.

(7) Species, new ?

Riverside Co.: Joshua Tree N.M., Cottonwood Spgs., Juniper Flat, Lost Hills  
 Ranger Sta., Pinon Wells, Pleasant Vly., X-7 to XI-11, CSULB, EF.  
 San Bernardino Co.: Lower Covington Flat, X-XI, CSULB, EF.



Genus Bohartia Hull

Bohartia Hull, 1958: 318.

Type-species, bromleyi Hull.

(2) isabella Adisoemarto & Wood, 1975: 531.

Types ♂♀, Westgard Pass, Inyo Co., Cal., VI-26 '53 (J. W.

MacSwain) CIS-CAS.

Geographic range: USA (California and Nevada).

California records: Inyo, Kern, Los Angeles, Mariposa, San Bernardino, Santa Clara, Tuolumne and Yolo Counties. Desert areas below:

Inyo Co.: Independence, V-17 '56 (J. Wilcox) JW; Little Lake, V-13 '62 (A. E. Menke) UCD; 15.8 mi. E. Trona, State Range, IV-17 '62 (C. A. Toschi) CIS; Westgard Pass (see above).

Kern Co.: Rosamond, IV-29, V-3 '41 (J. Wilcox) JW.

Los Angeles Co.: Palmdale, VI-6 '41 (D. J. and J. N. Knull) OSU; Piute (Piute) Butte, IV-26 '57 (J. Wilcox) JW.

San Bernardino Co.: Llano, Lovejoy Butte, V-9 '55 (J. E. H. Martin) CNC.

(2) martini Adisoemarto & Wood, 1975: 531.

Types ♂♀, Hy. 395, June Lane (Lake) Jct., VI-20 '54 (Dorothy Martin) CHM.

Geographic range: USA (Arizona, California, Idaho, Nevada, Oregon, Washington and Wyoming).

California records: Alpine, Eldorado, Inyo, Lassen, Mono, Nevada and Tuolumne Counties). Fringe desert areas below:

Mono Co.: 7 mi. E. Bodie, VII-2 '64 (P. Rude) CIS; June Lk. Jct. (see above) and (C. H. Martin) CHM; Lee Vining, VII-2 '67 (Eric Jeasen) CIS; Mammoth, VII-7 '57 (J. Wilcox) JW; Rock Crk. C. G., VII-3, 4 '67 (P. E. Arnaud, Jr.) CAS; 4 mi. S. Tom's Place, VII-13 '61 (G. I. Stager) CIS.

(3) munda Adiscoemarto & Wood, 1975: 532.

Types ♂♀, Bear Valley, Cal., VI-27 '48 (J. Wilcox) JW-CAS.

Geographic range: USA (California).

California records:

Riverside Co.: Upper Deep Crk. at Horsethief Crk., 3400', VI-11 '65  
(M. E. Irwin) UCR, 0.8 mi. N. Jct. Deep Crk. and Horsethief Crk., 2960',  
V-30 to VI-5, VII-6 to 22 '63 (A. Tabet) Sec. 6, T7S, R6E, UCR.

San Bernardino Co.: Bear Vly. (see above); 2 mi. E. Baldwin Lk.,  
March's Ranch Rd., V-25 '68 (P. A. Rauch, E. I. Schlinger) UCR; 2 mi.  
W. Phelan, V\*22 '57 (E. I. Schlinger) UCD.

Genus *Callinicus* LoewCallinicus Loew, 1872: 71.Type-species, calcareus Loew.Chrysoceria Williston, 1907: 1.Type-species, ? Lanarus pictitarsis Bigot.(1b) pictitarsis(Bigot), 1878: 417 (? Lanarus).

Type ?, California, Hope Museum, Oxford.

Geographic range: USA (Arizona, California, Nevada and Utah);  
Mexico (Baja California N.).California records: Eldorado, Kern, Los Angeles, Madera, Maricopa,  
Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara,  
Tuolumne and Ventura Counties. Mainly not a desert species but a few  
found in the desert area and the fringes.Los Angeles Co.: Big Pines, VII-26 '65 (J. Wilcox) JW; Wrightwood,  
VII-8 & 53, VII-2 '54 (C. H. Martin, J. Wilcox) CHM, JW.Riverside Co.: Anza, VI-25 '49 (Simonds) CDA; Banning, V-29 '48  
(E. C. Van Dyke) CAS; Pinyon Flat, V-24 to 29 '39 (W. A. Fitchen, E. S.  
Ross, Ray I Smith) Mallow, CAS, V-24, VI-18 '39 (E. G. Linsley, E. S.  
Ross) CIS.San Bernardino Co.: Big Bear Lk., VII-11 '48 (J. Wilcox) JW,  
VII-16 '34 (E. G. Anderson) CIS; Cajon, VI-25 '45 (A. L. Melander)  
USNM, Valley, IV-21 '34 (C. M. Dammers) UCR, Pass, VI-24 '49 (L. W.  
Isaak) UCD; Sheep Crk., nr. Phelan, V-24 '45 (A. L. Melander) USNM.San Diego Co.: Mt. Laguna, V-17 '48 (A. L. Melander) USNM,  
VI-21 '53, VII-5 '63 (E. L. Griffin, P. D. Hurd, J. Powell) Eriodictyon  
trichocalyx lanatum, Viguiera multiflora, CIS; 9 mi. S. Warner Spgs.,  
VII-4 '56 (R. M. Bohart) UCD.

(3) pollenius (Cole), 1919: 237 (Chrysoceria).

Type ♂, Hood River, Oregon, ♀, McKenzie Ridge, Oregon, CAS.

Geographic range: USA (California, Idaho, Montana, Oregon, Washington and Wyoming).

California records: Fresno, Inyo, Lassen, Mariposa, Modoc, Mono, Nevada, Placer, Plumas, Shasta, Siskiyou, Trinity, Tulare and Tuolumne Counties. Mainly out of the desert areas.

Inyo Co.: Big Pine Crk., 6000', VI-16 '42 (R. M. Bohart) UCD; Independence, VI-7 '37 (N. W. Frazier) CIS.

Mono Co.: Benton, VI-6 '37, CIS; Hot Crk. Ranch Road, 4000', VII-13 '65 (T. W. Davies) YU; Mammoth, VII-5 '33 (G. E. and R. M. Bohart) UCD; nr. Whitmore Spgs., VI-24 '34 (E. C. Van Dyke) CAS.



Genus *Coleomyia* Wilcox and Martin

*Coleomyia* Wilcox & Martin, 1935: 305.

Type-species, *Metapoxon setigerum* Cole.

*crumborum* Martin, 1953: 25.

Types ♂♀, Barton Flat, California, CAS.

Geographic range: USA (California).

California records:

San Bernardino Co.: Barton Flat, 6300', VII-7 to VIII-12 '42, '43  
(Guy F. Toland, J. Wilcox) CAS, JW; upper Barton Crk., VIII-9 '49  
(A. L. Melander) USNM; Jenks Lk., VII-18 '43 (C. H. Martin), ~~VIII-18~~ CHM.

These records are all in the Barton Flats area and the nearest  
locality to the California desert area. The other species are mainly  
found farther north in the mountains but in Oregon and Washington  
they are found at or near sea level.

Genus *Cyrtopogon* LoewCyrtopogon Loew, 1847: 516.Type-species, Asilus ruficornis Fabricius.(3) aldrichi Wilcox & Martin, 1936: 51.

Types ♂♀, Mt. Home Canyon, Cal., USNM.

Geographic range: USA (California).

California records:

Riverside Co.: H. James Res., nr. Lk. Fulmer, 5322', V-22 '76  
(K. Ota) UCR; Humber Pk., VI-21 '62 (J. F. Lawrence) CIS; Idlewild,  
VI-25 '28 (E. C. Van Dyke) CAS; Marion Mt. Camp, VII-1 '52 (S. Miyagawa)  
UCD; San Jacinto Mt. trail, VII-1 '52 (D. E. Barcus, A. L. Mathis) UCD.

San Bernardino Co.: nr. Fallsville, 6400', VI-23 '64 (John D. Pinto)  
UCR; Mill Crk., V-30 '39 (P. H. Timberlake) UCR; Mt. Home Cyn.,  
VI-8 '24 (J. M. Aldrich) USNM, VI-8 '24, VII-16 '21 (F. R. Cole) CIS.

San Diego Co.: Palomar Mt., VII-4 '48 (A. L. Melander) USNM; Pine  
Valley, IV-24 '20 (W. M. Giffard) CIS.

(3) basingeri Wilcox & Martin, 1936: 49.

Types ♂♀, Forest Home, California, CAS.

Geographic range: USA (California); Mexico (Baja California N.).  
Los Angeles,

California records: Riverside, San Benito, San Bernardino and  
Tulare Counties.

Riverside Co.: Idyllwild, 6000', XI-11 '62 (S. I. Schlinger) UCR.

San Bernardino Co.: Barton Flats, 6300', X-30 '63 (M. W. Stone,  
J. Wilcox) JW; Big Bear Lk., XI-4 '63 (J. Wilcox) JW; Cienega, IX-28 '47

(A. L. Melander) USNM; Forest Home, XI-10 '34 (A. J. Basinger) CAS, CHH, XI-10 '35 (K. W. Stone) JW; Hanna Flats, X-25, 26 '52 (A. S. Menke) LACMNH; Hesperia, XI-17 '28 (E. G. Anderson) USNM; upper Santa Ana R., IX-4 to X-28 '46 to '56 (N. Crickmer, A. L. Melander, Grace H. and John L. Sperry) USNM, CAS; S. Fork Mdwa<sup>S</sup>., X-9 '46 (N. Crickmer) USNM.

(3) callipedilus nigritarsus Wilcox & Martin, 1936: 39.

Types ♂, Car<sup>K</sup>ville, Cal., CAS.

Geographic range: USA (California).

California records: Kern, Riverside, San Bernardino, San Diego, Santa Cruz, Shasta, Siskiyou, Trinity, Tulare and Ventura Counties.

Riverside Co.: San Jacinto Mts., Idyllwild, V-16 to VI-9 '39, V-26 to VI-15 '40 (W. C. Bush, C. D. Michener, Ray F. Smith) CAS; nr. Martin Crk., Santa Rosa Mts., VII-15 '67 (R. L. Westcott) UI.

San Bernardino Co.: Camp Seely, VI-8 '36 (C. M. Dammers) LACMNH; Crestline, VI-19 '44 (A. L. Melander) USNM.

San Diego Co.: Mt. Palomar, V-30 '63, VI-15 '57 (David Peterson, R. D. Sjogren) UCR, VI-14 '48 (A. L. Melander) USNM, VI-23 '62, VI-24 '53 (J. F. Lawrence, J. Powell) GIS.

(3) curtistylus Curran, 1923: 133.

Type ♂, Cache Junction, Utah, C. W. Johnson Coll., BMNH-MOZ.

Geographic range: USA (California, Idaho, Montana, Oregon and Utah).

California records: Alpine, Eldorado, Inyo, Lassen, Mariposa, Mono, Shasta and Tuolumne Counties.

Inyo Co.: Big Pine Crk., 7500', VI-22 '42 (R. M. Bohart) UCD;  
Wyman Cyn., White Mts., 10000', VI-19 '61 (J. Powell) CIS.

Mono Co.: White Mts.: VII-15 '61 (E. I. Schlinger) UCD, Bancroft Lab., 125000', VII-5, 21 '61 (H. V. Daly, J. Powell, G. I. Stage) CIS, Blanco's Corral, 10000', VI-20 to VII-6 '53, VII-11, VIII-13 '51, VIII-30 '54 (D. D. Linsdale, C. D. MacNeill, J. W. MacSwain) CIS, Campito Mdw., head of Poison Crk., 10800', VIII-21 '63 (H. B. Leech) CAS, Crooked Crk. Lab., 10150', VI-26 '51 (J. Powell) CIS VI-4 '61 (J. S. Buckett) UCD 1 mi. N. Piute Mt., VII-9, 22 '53 (E. G. Linsley, J. W. MacSwain, R. F. Smith) CIS, Mt. Bancroft, 12500', VII-1 to 16 '61, VIII-9 '62 (D. C. Rentz) CAS (J. S. Buckett, D. R. Miller, A. S. Menke, R. D. Nelson, A. L. Stange) RER, UCD, Sheep Mt., 11200', VII-5 to 16 '61 (D. R. Miller, R. D. Nelson) RER, UCD (G. I. Stage) CIS, White Mt., 14000, VII-21 '53 (J. T. Brooks) CIS.

(3) symbalista Osten Sacken, 1877: 297.

Types ♂♂, Summit Station and Webber Lake, Cal., MOI.

Geographic range: USA (California).

California records: Alpine, Eldorado, Fresno, Inyo, Madera, Mariposa, Mono, Nevada, Plumas, Placer, Shasta, Sierra, Tulare and Tuolumne Counties.

Inyo Co.: White Mts., VII-24 '36 (W. T. McNear).

Mono Co.: Mammoth L., VII-27 '33 (G. E. and R. M. Bohart) UCD.



(3) dasyllis Williston, 1893: 66.

Type ♂, Deer Mt., Colorado, UK.

Geographic range: Canada (Alberta and British Columbia); USA  
Alaska, California, Colorado, Oregon and Washington).

California records: Eldorado, Mono, Placer and Plumas Counties.

Mono Co.: Mt. Barcroft, 12500', VII-1 '61 (D. C. Rentz) CAS.

(3) infuscatus Cole, 1919: 233.

Type ♂, Mt. Jefferson, Oregon, CAS.

Geographic range: Canada (British Columbia); USA (California,  
Idaho, Montana, Oregon, Washington and Wyoming).

California records: Eldorado, Inyo, Lassen, Madera, Mariposa,  
Mono, Nevada, Placer, Shasta, Sierra, Tulare and Tuolumne Counties.

Inyo Co.: Bigpine, 8500', VII-7 '66 (M. W. Stone) JW.

Mono Co.: Lake Mary, VIII-8 '57 (J. Wilcox) JW; Mammoth L.,  
VII-20, 21 '33 (G. E. and R. M. Bohart) UCD; 4 mi. S. W. Tom's Place,  
VII-13 '61 (H. V. Daly) CIS.

(3) vandykei Wilcox and Martin, 1936: 27.

Types ♀♀, Forest Home, Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Kern, Los Angeles, Riverside, San Bernardino  
and San Diego Counties.

Riverside Co.: Santa Rosa Mt., V-27 '46 (D. J. and J. N. Knull) OSU,  
7500', V-11 '40 (C. D. Michener) CAS.

San Diego Co.: Laguna Mts., VI-21 '53 (J. Powell) CIS; 1 mi. W.  
M<sup>T</sup>. Palomar, VI-23 '62, VI-24 '53 (J. Lawrence, J. Powell) CIS, Palomar  
P. O., VI-16 '55 (C. M. Dammers) LACMNH.

evidens Osten Sacken, 1877: 306.

Types 32, Webber Lake, Cal., MCZ.

Geographic range: USA (California, Oregon and Washington).

California records: Alpine, Amador, Eldorado, Fresno, Glen, Inyo, Lassen, Madera, Mariposa, Modoc, Mono, Nevada, Placer, Plumas, Riverside, San Bernardino, Shasta, Sierra, Siskiyou, Trinity, Tulare and Tuolumne Counties.

Inyo Co.: Bigpine, VIII-12 '57 (J. Wilcox) JW, 8500-9500', VII-1 '60 (W. F. Barr) UI, 9500', VI-22 '42 (R. M. Bohart) UCD; Inyo Craters, VII-2 '64 (Fred G. Andrews) UCR.

Mono Co.: Mammoth, VII-27 '36 (G. E. and R. M. Bohart) UCD; Rock Crk. Lake, VII-18 '64 (J. Wilcox) JW; 4 mi. W. Tombs Place, VII-15 '61 (H. V. Daly) CIS; White Mts., Crooked Crk. Lab., 10150', VI-20 '61 (J. Powell) CIS.

Riverside Co.: San Jacinto Mts., Idyllwild, VII-6 '50 (R. O. Schuster) CIS, Marion Mt. Camp, VII-1 '52 (E. M. Evans) UCD, Tahquitz Vly., VI-14 '39 (E. S. Ross) CIS, VII-6 '50 (W. A. McDonald) UCD.

San Bernardino Co.: Barton Flat, 6000', VI-11 to VIII-9 '38 to '42 (Guy F. Toland, J. Wilcox) JW, S. Fork Mdws., VII-27 '48 (John L. Sperry) USNM, upper Santa Ana. R., VII-6 '56, VII-31 '52 (A. L. Melander) USNM; Green Vly., VII-26 '44 (A. L. Melander) USNM; Yermo, V-23 '40 (M. A. Cazier, W. Reeves, P. C. Ting) CAS.

(3) montanus Loew, 1874: 362.

Type ♂, Sierra Nevada, Cal., MCZ

Geographic range: Canada (Alberta and British Columbia); USA (California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming).

California records: Alpine, Amador, Calaveras, Del Norte, Eldorado, Fresno, Glenn, Inyo, Kern, Lassen, Los Angeles, Madera, Mariposa, Mendocino, Modoc, Mono, Monterey, Napa, Nevada, Placer, San Bernardino, San Francisco, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Tehama, Trinity, Tulare and Tuolumne Counties).

Inyo Co.: Schulman Grove, White Mts., 10500', VII-12 '65 T. W. and W. T. Davies) YU.

Mono Co.: White Mts., Blancos Corral, 10000', VI-13 to VII-5 '53, '54 (W. D. McGlellan, W. Malley) UCD, (Don Burdick, D. D. Linsdale, E. G. Linsley, C. D. MacNeill) CIS, Crooked Crk. Lab., 3 airline mi. N. Inyo Co. line, VI-18 '63 (J. Powell) CIS.

(3) nugator Osten Sacken, 1877: 307.

Type ♀ (♂?), Webber Lake, Cal., MCZ.

Geographic range: Canada (British Columbia); USA (California, Idaho, Oregon and Washington). Back (1909) reports from New Mexico ?

California records: Alpine, Amador, Eldorado, Fresno, Inyo, Madera, Mariposa, Modoc, Mono, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Tehama and Tuolumne Counties.

Inyo Co.: 9700', VII-13 '34 (G. E. Bohart) UCD; Ruby Lk., 11500', VIII-13 '57 (B. D. Linsdale) CIS, (C. D. MacNeill) CAS.

(3) rainieri Wilcox & Martin, 1936: 77.

Types 89, Mt. Rainier, Wash., CAS.

Geographic range: USA (California, Oregon and Washington).

California records: Inyo, Sierra, Tulare and Tuolumne Counties.

Inyo Co.: Onion Vly., VII-5 '65 (J. R. Birchim) CAS.

(3) sudator Osten Sacken, 1877: 307.

Types 89, Webber Lake, Cal., MCZ.

Geographic range: Canada (British Columbia); USA (California, Idaho, Nevada, Oregon and Washington).

California records: Alpine, Amador, Contra Costa, Eldorado, Fresno, Inyo, Lassen, Mariposa, Mono, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Tehama, Tulare and Tuolumne Counties.

Inyo Co.: Bigpine, 7500-8600', VII-6, 7 '57, '66 (M. W. Stone, Ipol J. and J. Wilcox) JW; Westgard Pass, VII-10 '53 (E. G. Linsley) CIS.

Mono Co.: Cottonwood Crk., 9300', VII-10 '61 (H. V. Daly, G. I. Stage) CIS; White Mts., Blancos Corral, 10000', VI-20 to VII-9 '53 (J. T. Stooks, D. D. Linsdale, E. G. Linsley, C. D. MacNeill, J. W. MacSwain) CIS, (W. D. McClellan, N. Malley) UCD, (H. Nakakihara) UCR, Crooked Crk. Lab., 3 airline mi. N. Inyo Co. line, VI-18 to 22 '61, 10150' (J. Powell, G. I. Stage) CIS, Sheep Mt., 11200', VII-12 '61 (H. V. Daly) CIS, Wyman Cyn., 10000', VI-21 '61 (J. Powell) CIS.



Genus *Dicolonus* Loew

(2) Dicolonus Loew, 1866: 32.

Type-species, simplex Loew.

(3) medium Adiscoemarto & Wood, 1975: 524.

Types ♂♀, Mineral King, Tulare Co., Cal., 8000', VII-7 '42

(G. Bohart), USNM.

Geographic range: USA (California and Nevada).

California records: Inyo and Tulare Counties.

Inyo Co.: 2 mi. E. Bigpine, VI-3 '74 (J. D. Pinto) UCR,

Lone Pine, V-13 '69 (J. A. Chemsak) CIS.

Genus *Dioctria* Meigen

*Dioctria* Meigen, 1803: 270.

Type-species, *Asilus oelandicus* Linnaeus.

(3) *flavipes* Banks, 1917: 119.

Type ♀, Yakima, Wash., July 2, 1882 (Samuel Henshaw), MCZ.  
*henshawi* Johnson, 1918: 103 (n. name for *flavipes* Banks not Meigen).  
*vertebrata* Cole, 1919: 230.

Type ♀, Parkdale, Oregon, July 12, 1917 (Cole), CAS.

Geographic range: Canada (British Columbia); USA (California, Idaho, Oregon, Utah and Washington).

California records: Eldorado, Inyo, Modoc, Mono, Siskiyou and Tuolumne Counties.

Inyo Co.: Grandview C. G., White Mts., 8500', VII-15 '66 (P. H. Arnaud, Jr.) CAS; 7 mi. N. Parcher's Camp, VI-30 '61 (D. R. Miller) UCD.

Mono Co.: Convict Lk., VII-18 '56, VIII-8 '57 (G. E. and R. M. Bohart) UCD; Leavitt Mds., 2470 m., VII-24 '66 (Paul H. Arnaud, Jr.) CAS; Rock Crk. C. G., VII-4 '67 (Paul H. Arnaud, Jr.) CAS; 1 mi. S. Tom's Place, VIII-8 '62 (L. A. Stange) UCD.

(3) *pleuralis* Banks, 1917: 118.

Type ♀, Los Angeles, Cal., MCZ.

Geographic range: USA (Arizona and California).

California records: Los Angeles, Orange, Riverside, San Bernardino and San Diego ~~Counties~~, Santa Barbara and Ventura Counties.

Riverside Co.: Idyllwild, 7500', VII-6 '58 (F. X. Williams) CAS, VII-28 '40 (J. Wilcox) JW.

San Bernardino Co.: San Bernardino Mts., 5 localities, July-August.

San Diego Co.: Laguna Mts., VII-5,6 '29 (R. H. Beamer) UK; Palomar Mt., VII-13 '41 (J. Wilcox) JW.

(3) pusio Osten Sacken, 1877: 288.

Type ♀, Sonoma Co., Cal., MCZ.

Geographic range: Canada (British Columbia); USA (Arizona, California, Colorado, Idaho, Nevada, Oregon and Washington); Mexico (Baja California N.).

California records: Butte, Calaveras, Eldorado, Fresno, Inyo, Kern, Lake, Los Angeles, Madera, Marin, Mariposa, Modoc, Napa, Riverside, San Bernardino, San Diego, Shasta, Siskiyou, Solano, Sonoma, Trinity, Tulare, Tuolumne and Yolo.

Inyo Co.: Bigpine, VIII-5 to 11 '57 (J. Wilcox) JW; Westgard Pass, VI-14 '61 (C. A. Toschi) CIS.

Riverside Co.: Cactus Spring trail, between Hwy. 74 and Horsethief V-31 '75  
 Crk., ~~V-24 '77, V-25 '77, V-26 '77, V-27 '77, V-28 '77, V-29 '77, V-30 '77, V-31 '77~~ (John Pinto) ~~Saul Frommer~~ ~~xxxxx~~  
~~xxrifolia~~ UCR; Pinyon Flat, V-27 '39, V-28 '40, VI-27 '52 (E. S. Ross, C. D. Michener, E. G. Linsley, J. J. Menn) CAS, CIS; ca. 6 mi. S. Valle Vista, 2300-2400', VI-24 '77, Sec. 9, T68, R18 (John Pinto, Saul Frommer) ex. Quercus agrifolia, UCR; Vandevanter Flat, VI-11 '40 (C. D. Michener) CAS.

San Bernardino Co.: Forest Home, VII-5 '50 (P. H. Timberlake) UCR.

San Diego Co.: Poway, VI (F. E. Blair<sup>1</sup>dell) CAS.

(2) vera Back, 1909: 256.

Type ♂, Monterey Co., Cal., AMNH.

Geographic range: USA (California, Arizona, Colorado, Nevada, New Mexico and Texas).

California Records: Calaveras, Eldorado, Fresno, Inyo, Lake, Los Angeles, Mono, Nevada, Plumas, Riverside, San Bernardino, San Diego, Santa Barbara, Trinity, Tuolumne and Ventura Counties.

Inyo Co.: Antelope Spgs., VI-19 '61 (A. W. Frankie) CIS (D. R. Miller) UCD, VI-29 to VII-17 '60, '63 (H. K. Court, W. D. McClellan, D. R. Miller) UCD; Bigpines, VIII-5, 11 (57 (J. Wilcox) JW, Cyn. 8500', VII-5 '73 (G. Ballmer) UCR; Deep Spgs., VII-15 '53 (W. D. McLellan) UCD; Independence, VI-11 '37 (G. E. and R. M. Bohart) UCD; Mahogany Flats, 8133', VIII-8 '69 (L. P. La Pre, J. W. Stubblefield) UCR.

Mono Co.: Rock Crk. C. G., VII-4 '67 (P. H. Arnaud, Jr.) CAS.

Los Angeles Co.: Big Pines, VIII-2 '44 (A. L. Melander) USNM.

Riverside Co.: Tahquitz Vly., San Jacinto Mts., VII-6 '53 (C. J. Weinmann) UCD

San Bernardino Co.: San Bernardino Mts., Angelus Oaks, VI-13 '74 (C. and B. M. Hall) UCR, Fish Crk., VII-26 '48 (J. L. Sperry) USNM, South Fork C. G., 6300', VII-2 to VIII-2 '43, '47 (J. Wilcox) JW, IX-4 '48 (A. L. Melander) USNM, Mdws., VII-20 '48 (J. L. Sperry) USNM, Sugar Loaf Mt., VII-15 '46 (A. L. Melander) USNM.

San Diego Co.: Laguna Mt., VII-6, 21 '29 (R. H. Beamer) UK, VII-6 '41 (John Wilcox) JW; Palomar Mt. 5500', VIII-14 '71 (G. R. Ballmer) UCR.



*Dioctria* *Nannodioctria* Wilcox and Martin

*Neodioctria* Wilcox & Martin, 1941: 35 (subgenus of *Dioctria*).

Type-species, *albicornis* Wilcox & Martin.

*Nannodioctria* Wilcox & Martin, 1942: 35 (n.n. for *Neodioctria* Wilcox & Martin not Ricardo 1912).

Type-species, *albicornis* Wilcox & Martin.

♂  
(3) *albicornis* Wilcox & Martin, 1941: 35.

Types ♂♂, Giant Forest, Cal., UK.

Geographic range: USA (California).

Fresno,

California records: ~~^~~ San Bernardino, Siskiyou, Tulare and

Tuolumne Counties.

San Bernardino Co.: San Bernardino Mts., Barton Flats, VII-20 '50  
(A. L. Melander) USNM, S. Fork Santa Ana R., VII-29 '42 (A. L. Melander)  
USNM, upper Santa Ana R., VII-26 '48 (John L. Sperry) USNM.

Eudioctria Wilcox and Martin

Eudioctria Wilcox & Martin, 1941: 8 (as subgenus of Dioctria).

Type-species, Dioctria albius Walker.

Eudioctria Adiscoemarto & Wood, 1975: 537 (elevate to generic rank).

(3) dissimilis Adiscoemarto & Wood, 1975: 541.

Type ♂, Idyllwild, San Jacinto Mts., Cal., VI-18 '40 (C. D.

Michener), ♀, Harkney (Herkey) Crk., San Jacinto Mts., Cal.,

VI-4 '40 (C. D. Michener), CAS.

Geographic range: USA (California).

California records:

Los Angeles Co.: Crystal Lake (J. W. MacSwain) CIS.

Riverside Co.: San Jacinto Mts.: Idyllwild and Herkey Crk. (see above); Pinyon Flat, V-21 '40; Ribbonwood, V-18 '40 (C. D. Michener)

(3) doanei (Melander), 1923 :30 (Dioctria).

Type ♂, Pasadena, Cal., USNM.

Geographic range: USA (California and Oregon).

California records: Alameda, Amador, Eldorado, Kern, Lake, Los Angeles, Marin, Mono, Napa, Nevada, Orange, Placer, Shasta, Tuolumne, Tehama and Ventura Counties.

Los Angeles Co.: Crystal Lake, 4700', VII-9 '52 (R. M. Bohart) UCD; Monrovia Cyn., V-3 to VI-6 '61 (C. H. and D. Martin) CHM, V-18 '66 (J. C. Hall) UCR; Mt. Wilson, summit, VII-6 '16 (Harold<sup>d</sup> Morrison) USNM; Pasadena, VI-6 '95 (R. W. Doane) type ♂, USNM; Tanbark Flat, VI-7 to VII-28 '50, '52, '56 (many collectors) 2 small scarabs prey, CIS, UCD, USNM.

(3) monrovia Wilcox & Martin, 1941: 15.

Types ♂♀, Monrovia Canyon, Cal., CHM.

Geographic range: USA (California).

California records: Los Angeles, Riverside, San Bernardino and San Diego Counties (flies and localities similar to dissimilis A. & W., with some difference).

Los Angeles Co.: Monrovia Cyn., VII-6, 20 '30 (D. and C. H. Martin) CHM.

Riverside Co.: Cactus Spring Trail, between Hwy. 74 and Horse-thief Crk., Deep Canyon area, III-1 '77 (J. D. Pinto) UCR.

San Bernardino Co.: 2 mi. E. Baldwin Lk., March's ranch road, 6200', V-17 '69, V-25 '68 (S. Freeman, P. A. Rauch, E. I. Schlinger, L. D. Tejada) on Salvia dorsii, Purshia tridentata, Pinus monophylla, UCR; Joshua Tree N. M., Indian Cove, V-17 '58 (~~Joshua Tree N. M., Indian Cove, V-17 '58 (Joshua Tree N. M., Indian Cove, V-17 '58)~~) (R. Casebeer) LACMNH.

San Diego Co.: Laguna Mts., VII-6 '29 (R. H. Beamer) UK, resorts, VI-4 '55 (W. E. Simonds) CDA; Palomar Mt., VI-28 '63 (W. C. Reische) UCD, VII-13 '41 (Max England) JW; 7 mi. N. Scissors Crossing, V-15 '68 (Fred G. Andrews) UCR.

Genus *Eucyrtopogon* CurranEucyrtopogon Curran, 1923: 95.Type-species, Cyrtopogon nebulo Osten Sacken.(3) incompletus Adisoemarto, 1967: 40.

Type ♂, Cypress Hills, Alberta, CMC.

Geographic range: Canada (Alberta); USA (California, Montana, Nevada and Oregon).

California records: Alpine, Eldorado, Modoc, Mono, Nevada, Siskiyou and Tuolumne Counties.

Mono Co.: White Mts.: Blanco's Corral, 10000', 10150', VI-20 to VIII-26, '53, '54, '60 (W. D. McClellan, N. Malley) UCD, (H. Nakakihara) UVR, UCD (J. T. Brooks, Don Burdick, D. Q. Cavaganaro, D. D. Linsdale, C. D. MacNeill, J. W. MacSwain, C. A. Toschi, M. Wasbauer) CIS, Crooked Crk., 9000', VI-10 '53 (J. W. MacSwain), Lab., 10150', VI-8 '51 (J. Powell) CIS, Poison Crk., 10000', VI-26 '61 (J. Powell) CIS, Sheep Crk., 11200', VII-5 '61 (J. Powell) CIS.

(3) nebulo (Osten Sacken), 1877: 309 (Cyrtopogon).

Type ♀, Webber Lake, Cal., MCZ.

Geographic range: Canada (British Columbia); USA (California, Nevada, Oregon and Washington).

California records: Inyo, Mariposa, Mono, Placer, Plumas, San Bernardino and Tuolumne Counties.

Inyo Co.: Independence, XII-28 '63 (J. R. Birchim) CAS.

San ~~King~~ Bernardino Co.: Barton Flat F. C., III-30, IV-3, V-20 '63 (M. W. Stone, J. Wilcox) JW; about half of the ground covered with snow at first two dates.



(7) species, new

Geographic range: USA (Arizona and California).

California records:

Inyo Co.: Death Valley, Scotty's Castle, III-23 '40, CAS.

Los Angeles Co.: Littlerock, XII-28 '41 (J. Wilcox) JW.

Joshua Tree NM, Pleasant Vly, II-4 to 19, CSULB, EF (S. Gdo. Co.);

Riverside Co.: Palm Springs R. R. Station, XI-11 '41 (J. Wilcox)  
^

JW; White Water, I-6 '48, XI-28 '47, XII-10 '62, XII-27, 28 '47

(C. H. Martin, J. Wilcox) CHM, JW.

San Bernardino Co.: 6 mi. E. Lucerne Vly., XI-7 7P (Eric Fisker)  
^ XI-29 '66 J. Wilcox

JW, EF.

Genus Heteropogon LoewHeteropogon Loew, 1847: 488.Type-species, Dasypogon manicatus Meigen.Anisopogon Loew, 1874: 488. (unjustified n. name for Heteropogon Loew).Type-species, Dasypogon manicatus Meigen.(2) auratus (Osten sacken), 1877: 293 (Pycnopogon).

Type ♂, Mariposa Co., Cal., MCZ.

Geographic range: USA (California, Nebraska, Oregon and Washington).

California records: Butte, Calaveras, Contra Costa, Eldorado, Glenn, Humboldt, Lake, Los Angeles, Marin, Mariposa, Mendocino, Modoc, Monterey, Orange, San Bernardino, San Benito, San Diego, San Luis Obispo, Santa Barbara, Santa Clara, Santa Cruz, Shasta, Siskiyou, Sonoma, Tehama, Trinity, Tuolumne, Ventura and Yolo Counties.

Los Angeles Co.: Hwy. 99, nr. Gorman, VI-22 '58 (W. E. Simonds) ODA.

San Bernardino Co.: Camp Baldy, VI-25, 27, '52, '56 (H. W. Michalk), C. L. Wiley) CIS.

(3) davisi Wilcox, 1965: 216.

Types ♀♀, Sabino Canyon, Santa Catalina Mts., Ariz., CAS.

Geographic range: USA (Arizona, California and Nevada).

California records:

Inyo Co.: Bishop, IX-4 '56 (R. M. Bohart) UCD; Independence, Gray's Mdw., VIII-23, IX-16 '63 (J. Wilcox) JW; 6 mi. W. Lone Pine, IX-19 '65 (J. Wilcox) JW; 5 mi. S. Clancha, VIII-13 '59 (J. A. Chemsak) CIS.

Kern Co.: Freeman Gulch, IX-8 '56 (P. D. Hurd) CIS; 1 mi. W.

Walker Pass, IX-3 '65 (A. J. Slater) CIS.

Riverside Co.: Joshua Tree N.M., Fried Liver, Wash, X-9, CSOLB, EF.

Mono Co.: Benton, VIII-24 '48 (W. M. Pearce) CAS, VII-20 '50 (H. A.

Hunt) UCD, IX-1 '37 (E. G. Anderson) USNM, Insp. Sta., X-24 '64 (W. E.

Simonds) Chrusoetharus, ODA; 2 mi. E. Convict Lk. VIII-13 '59 (J. Chemsak) CIS.

(2) fisheri Wilcox, 1965: 217.

Types ♂♀, Beverly Glen, Cal., LACMNH.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Los Angeles, Orange and San Diego Counties.

Los Angeles Co.: Beverly Glen Cyn., Santa Monica Mts., IX-9 '63,  
IX-20 '64 (Eric Fisher) LACMNH, EMF; Saugus, X-1 '60 (Eric Fisher) EMF.

San Diego Co.: Laguna Mts., IX-15 '56 (F. X. Williams) CAS.

(1) ludius (Coquillett), 1895: 20 (Anisopogon).

Types ♂♀, Los Angeles and San Bernardino Counties, CAL., USNM.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Fresno, Los Angeles, Riverside, San Benito,  
San Bernardino, San Diego, Santa Clara and Ventura Counties. Found  
mainly west of the mountains.

Riverside Co.: Massacre Cyn., IV-29, V-15 '66 (J. Wilcox) JW.

San Bernardino Co.: Cajon Pass, VI-25 '49 (H. E. Cott) UCD.

San Diego Co.: Laguna Mts., 1 mi. N. Hwy. 80, VI-18 '60  
(G. H. Nelson) FSCA.

(3) martini Wilcox, 1965: 218.

Types ♂♀, Montgomery Pass, Nevada, CAS.

Geographic range: USA (California, Nevada, Oregon and Utah).

California records: Inyo, Lassen, Modoc and Mono Counties.

Inyo Co.: Argus Mts., V-22 '57 (B. Brookman) CAS; 7.5 mi. W.  
Lone Pine, VII-11 '65 (Ballmer and Bath) UCR.

Mono Co.: Mono Lake N., VII-7 '67 (J. Wilcox) JW; Topaz Lk.,  
VI-27 '57 (J. M. Burns, J. W. MacSwain, A. E. Pritchard) CIS, VII-17 '51  
(A. T. McGray) UCD.

(?) rubidus (Coquillett), 1893: 21 (Anisopogon).

Types ♂♀, Los Angeles Co., Cal., USNM.

Geographic range: USA (California).

California records: Los Angeles County. Not found since described.

(3) senilis (Bigot), 1878: 423 (Anisopogon).

Type ♂, Hope Museum, Oxford.

Geographic range: USA (California, Oregon and Washington).

California records: Alpine, Contra Costa, Marin, Mendocino,

Modoc, Mono, Napa, Nevada, Placer, Plumas, Riverside, San Bernardino,  
San Diego, Santa Barbara, Sierra, Siskiyou, Sonoma and Ventura Counties.  
Mainly found west of the mountains.

Riverside Co.: Banning, VI-5 '39, V-20 '41 (E. C. Van Dyke) CAS, CIS.

San Bernardino Co.: Big Bear Lake, VI-27 '48 (Guy F. Toland) JW.

San Diego Co.: Desert View, VI-14 '49 (G. A. Marsh) CIS; Julian  
VI '18, CDA.(3) tolandi Wilcox, 1965: 219.

Types ♂♀, Pinyon Flat, Cal., CAS.

Geographic range: USA (California).

California records:

Riverside Co.: Pinyon Flat, IX-17 '48 (Guy F. Toland, J. Wilcox)  
CAS, JW.San Bernardino Co.: San Bernardino Mts., 6 mi. N. E. of S. Fork  
F. Co., 7500', VII-8 '64 (J. Wilcox) JW, Sugar Loaf, VII-4 '46 (A. L.  
Melander) USNM, upper Santa Ana R., VI-9 to VIII-10 '47 to '52  
(A. L. Melander) USNM.



Genus Holopogon Loew

Holopogon Loew, 1847: 473.

Type-species, Dasypogon nigrripennis Weigen.

(3) atrifrons Cole, 1924: 8.

Types ♂♀, Mill Creek Canyon, Cal., CAS.

Geographic range: USA (California, Nevada and Oregon).

California records: Alameda, Alpine, Eldorado, Fresno, Los Angeles, Monterey, Plumas, Riverside, San Bernardino, San Diego, Shasta, Siskiyou, Solano, Tuolumne and Ventura Counties.

Los Angeles Co.: Wrightwood, VII-17 '52 (J. Wilcox) JW.

San Bernardino Co.: Big Bear Lk., Hanna Flats, VII-30, 31 '49

(C. H. and D. Martin, J. Wilcox) CHM, JW.

San Diego Co.: Mt. Palomar, VIII-24 '49 (C. H. and D. Martin) CHM.

(3) crinatus Martin, 1959: 37.

Types ♂♀, Big Bear Lake, Cal., AMNH.

Geographic range: USA (California).

California records:

Riverside Co.: San Jacinto Mts., Idyllwild, VI-6 '50 (F. X.

Williams) CAS, VI-30 '28 (E. C. Van Dyke) CAS; Tahquitz Vly., IV-14 '30

(E. S. Ross) CAS, VII-1 '53 (R. E. Wagner) CIS, VII-7 '50 (E. G. Linsley) CIS.

San Bernardino Co.: Big Bear Lk., Hanna Flats, VII-3 '49 (C. H. and D. Martin) AMNH, CHM; Dollar Lake Trail, VII-11 '56 (R. C. Bechtel, R. M. Bohart) UCD.

(4) seniculus Loew, 1866: 36.

Types ♂2, Nebraska (Heyden), MCZ.

Geographic range: ~~USA~~ Canada (Alberta) Saskatchewan); USA (California, Colorado, Montana, Nebraska, Nevada, New Mexico, North Dakota, South Dakota, Utah and Wyoming).

California records:

Inyo Co.: Antelope Spgs., VI-14, 15 '51 (C. A. Toschi) CIS,  
VII-9 '66 (H. K. Court) UCD; Deep Springs, VI-15 '65, VII-16 '53  
(H. K. Court, E. I. Schlinger) Chrysothamnus, UCD, 7 mi. W., VII-2 '65  
(M. E. Irwin) UCR; Lone Pine, V-4 to VI-19 '37 (E. C. Van Dylke) CAS;  
4 mi. W. Westgard Pass, VI-19 '61 (J. Powell) CIS.

Mono Co.: Mono Lake N., VII-5 '67 (J. Wilcox) JW.

(3) stellatus Martin, 1959: 28.

Types ♂2, Mt. Palomar, Cal., AMNH.

Geographic range: Canada (British Columbia); USA (California, Nevada, Oregon, Utah and Washington); Mexico (Baja California N.).

California records: Alpine, Amador, Eldorado, Inyo, Kern, Lassen, Los Angeles, Madera, Mariposa, Mono, Monterey, Nevada, Placer, Plumas, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Sierra, Siskiyou, Trinity and Tuolumne Counties.

Mono Co.: White Mts., Crooked Crk., 10150', VI-24 '61 (D. R. Miller) UCD.

Riverside Co.: Anza, VI-24 '56 (G. I. Stage) CIS.

San Diego Co.: Laguna Mts., VII-6 '41 (John Wilcox) JW, VII-19 '59  
(Paul A. Rude) CIS, 1 mi. N. W., VI-28 '62 (J. F. Lawrence) CIS;  
Mt. Palomar, VI-27 '58 (C. H. and D. Martin) AMNH, CHM, VII-13 '41 (M.  
England, J. Wilcox) JW; Oak Grove, V-9 '45 (A. L. Melander) USNM.

Genus *Itolia* Wilcox

*Itolia* Wilcox, 1936: 20.

Type-species, *maculata* Wilcox.

(5) *atrides* Wilcox, 1948: 193.

Types ♀, Mohawk, Arizona, CAS.

Geographic range: USA (Arizona and California); Mexico (Sonora).

California records:

Imperial Co.: Palo Verde, VIII-24 '58 (G. H. Nelson) FSCA.

Riverside Co.: ~~Indio, VIII-24~~ Deep Springs, IX-3 '64 (G. Wallace)

UCR; Palm Desert, VIII-19 '58 (L. A. Stange) LACMNH.

(7) *timberlakei* Wilcox, 1948: 192.

Types ♀, White Water, Cal., CAS.

Geographic range: USA (Arizona and California).

California records:

Imperial Co.: Gordon's Well, 4 mi. W., VI-22 '63 (R. L. Westcott)

EMF.

Riverside Co.: Indio, VIII-9 '47 (Guy F. Toland) J. Wilcox) JW.

Snow Crk., VII-2 '56 (P. H. Timberlake) UCR; White Water, VIII-9, 10

'47 (Guy F. Toland, J. Wilcox) JW, CAS, VII-9 '50 (J. W. MacSwain) CIS,

(K. G. Whitesell) UCD.

This illustrates the ephemeral nature of insects on the desert.

Mr. Toland and I went back the next week end to get more of these flies

but not a single one was found.

Genus *Lasiopogon* LoewLasiopogon Loew, 1847: 508.Type-species, Dasyopogon pilosellus Loew.(3) drabicola Cole, 1916: 65.

Types ♂♀, Redlands, Cal., USNM.

Geographic range: USA (California); Mexico (Baja California N.).

California Records: Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura Counties. Mainly west of the mountains.

Los Angeles Co.: Tapia Park, IV '63 (D. Gibo) NCSU; Valyermo, V-13 '44 (A. L. Melander) USNM.

San Bernardino Co.: Mojave R. and Deep Crk., IV-27 '41 (J. Wilcox) JW.

San Diego Co.: Blue Pt. C. G., vic. Pine Crk., V-7 '66 (Saul and Suzy Frommer) UCR.

(3) species, new

Geographic range: USA (California).

California records:

San Bernardino Co.: Big Bear Lk. N., V-9, 23 '63 (M. W. Stone, J. Wilcox) JW.

(3) zonatus Cole and Wilcox, 1938: 80.

Types ♂♀, Santa Ana Cyn., Cal., CAS.

Geographic range: USA (California).

California records: Colusa, Fresno, Kern, Lake, Los Angeles, Napa, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Ventura and Yolo Counties.

Los Angeles Co. Bouquet Cyn., III-23 '41 (J. Wilcox) JW; Mint C. F. C., V-10 '41 (J. Wilcox) JW.

Riverside Co.: La Quinta, III-28 '23 (F. R. Cole) CIS.



San Bernardino Co.: Banning, 4000', IV-14 '53 (J. Wilcox) JW;  
Cajon Pass, summit, V-6 '66 (J. Wilcox) JW; Mojave R. and Deep Crk.,  
IV-27 '41 (J. Wilcox) JW; Sheep Crk. Cyn., V-1 '46 (A. L. Melander)  
USNM.

Genus Metadioctria Wilcox and Martin

Metadioctria Wilcox & Martin, 1941: 19 (as subgenus of Dioctria Meigen).

Type-species, Dioctria rubida Coquillett.

Metadioctria Adiscoemarto & Wood, 1975: 535 (elevated to generic rank

but limited it to rubida Coquillett). D. parvula Coquillett and

D. resplendens Loew were not included because of their two-segmented style. They are retained here until they can be studied in relation to similar species from Mexico.

(3) parvula (Coquillett), 1893: 80 (Dioctria).

Type ♂, Los Angeles Co., Cal., USNM.

Geographic range: USA (California).

California records: Eldorado, Los Angeles, Mendocino and Napa Counties.

Los Angeles Co.: (D. W. Coquillett) USNM; Mint Cyn., VI-7 '35

(P. W. Oman) USNM, VII-6 '35 (R. H. Beamer) UK, JW.

(3) resplendens (Loew), 1872: 62 (Dioctria).

Type ♂, California (Hy. Edwards), MCZ.

Geographic range: USA (California and Nevada).

California Records: Inyo, Placer, San Diego, San Mateo, Solano,

Tulare and Yolo Counties.

Inyo Co.: Panamint Mts., V-29 '37 (J. H. Mitchell) CAS.

San Diego Co.: Julian, VII-4 '62 (J. A. Froebe) UCD.

(3) rubida (Coquillett), 1893: 213 (Dioctria).

Type ♂, Los Angeles Co., Cal., USNM.

Geographic range: USA (California).

California records: Los Angeles, Riverside, San Bernardino,  
San Diego, Santa Barbara, Tuolumne and Ventura Counties.

San Bernardino Co.: Cajon Pass, 3700', VIII-15 '63 (P. H. Timberlake)  
UCR.

San Diego Co.: Oak Grove, VI-12 '62, VI-24 '49 (J. Wilcox) JW;  
Mt. Palomar, VII-13 '41 (J. Wilcox) JW.

Riverside Co.: Tahquitz Cyn., VI-22 '28 (E. C. Van Dyke) CAS.

Genus Metapogon Coquillett

Metapogon Coquillett, 1904: 181.

Type-species, gilvipes Coquillett.

(7) amarosae Wilcox, 1972: 46.

Types ♂♂, 3 mi. S. Beatty, Nye Co., Nev<sup>V</sup>, XII-24 '64 (D. L.

Coates) UI-CAS.

Geographic range: USA (Arizona, California and Nevada).

California records:

Riverside Co.: Blythe, X-28 '40 (K. S. Snyder) Tamarix, CIS.

San Bernardino Co.: Needles, III-20 '67 (R. M. Bohart, D. S. Horning)

UCD; Twentynine Palms, 2 mi. N. E., X-23, XI-6 '67 (Eric Fisher) EMF.

carinatus Wilcox, 1964: 193.

Types ♂♂, White Water, Cal., CAS.

Geographic range: USA (California).

California records:

Inyo Co.: Pine Cyn., IV-2 '53 (J. W. MacSwain) CIS.  
Joshua Tree N.M., Quail Guzzler, Piñon Wells, II-19 to III-2, CSULB, EF;  
Riverside Co.: <sup>^</sup> Palm Springs, I-7 '54, I-14 '53 (P. H. Arnaud, Jr.)

JW; nr. Ribbonwood, I-21 '63, about 5000', (E. I. Schlinger) UCR;

White Water, XI-25, 28, XII-27 '47, I-6, 13, II-8 '48, II-1 '71

(Eric Fisher, A. F. Howland, Guy F. Toland, J. Wilcox) CAS, EMF, JW,

Cyn., III-3 '68 (J. C. Hall) UCR.



(3) gilvipes Coquillett, 1904: 182.

Type ♂, Los Angeles Co., Cal., USNM.

Geographic range: USA (California).

California records:

Los Angeles Co.: (D. W. Coquillett) USNM.

Riverside Co.: Quail Vly., X-18 '75 (J. D. Pinto) Coastal sage,  
scrub <sup>C</sup>omm., UCR.

San Diego Co.: 5.2 mi. N. Escondido, X-2, 9 '63, X-12 '66 (M. W.  
Stone, J. Wilcox) JW; San Marcos, Palomar College, X-12 '66 (J. Wilcox)  
JW.

These are not desert localities but this species had not been  
found since 1904 until we more <sup>less</sup> or stumbled on it north of Escondido.

(3) pictus Cole, 1916: 65.

Type ♂, East Highlands, Cal., USNM.

Geographic range: USA (California and Nevada).

California records: Contra Costa, Lake, Los Angeles, Marin,  
Placer, Monterey, Riverside, San Bernardino, San Diego, San Mateo, Shasta  
and Tulare Counties. Mainly west of mountains.

Riverside Co.: 8 mi. E. Sunnymead, III-27 '59 (E. I. Schlinger)  
UCR.

San Bernardino Co.: 9 mi. S. Victorville, X-28 '34 (P. H.  
Timberlake) UCR.

San Diego Co.: Witch Crk., XII-23 '61 (Paul A. Ryde) CIS.

(7) tricellus Wilcox, 1964: 199.

Types ♂♀, White Water, Cal., CAS.

Geographic range: USA (California and Nevada).

California records:

Inyo Co.: Independence, Grays Mdw., 6000', X-9 '64 (J. Wilcox)  
on dead twig and flowers of sage, 1-1½' high, JW.

Kern Co.: 8 mi. N. Randsburg (D. Gibo) ♂ with 3 submarinal  
cells, ♀ with 2, MCSU.  
*Joshua Tree N.M., Pinyon Wells, Pleasant Vly, Ex to II-21, CSULB, EF;*  
Riverside Co.: Palm Springs, I-6 '54 (Paul H. Arnaud, Jr.) JW;

R. R. Station, XI-11 '41 (J. Wilcox) JW; White Water, L-6 '48  
XI-28, XII-27 '47 (A. F. Howland, J. Wilcox) CAS, JW.

San Bernardino Co.: Joshua Tree N. M., Indian Cove, II-11 '61  
(E. L. Sleeper) CSULB, Canejo Well, X-15 '61 (E. L. Sleeper) CSULB.

(4) punctipennis Coquillett, 1904: 182.

Types ♂♀, Organ, New Mexico (T. D. A. Cockerell), USNM.

Geographic range: USA (Arizona, California and New Mexico).

California records:

Riverside Co.: 18 mi. W. Blythe, X-16 '65 (F. D. Parker) UCD.

San Bernardino Co.: 6 mi. N. W. Ivanpah, X-18 '78 (John D. Pinto)

Chrysiothamnus, UCR.

Genus *Myelaphus* Bigot*Myelaphus* Bigot, 1882: xci.Type-species, *melas* Bigot.(3) *lobicornis* (Osten Sacken), 1877: 287 (*Ceraturus*).

Types ♂♀, Snake River, Idaho, MCZ.

Geographic range: Canada (British Columbia); USA (California, Idaho, Nevada, Oregon, Utah and Washington).

California records: Kern, Merced, Orange, Riverside, San Bernardino, San Diego, Sutter, Siskiyou Counties. Mainly west of mountains.

San Bernardino Co.: Victorville, V-20 '38, V-30 '44 (C. M. Dammers, A. L. Melander) USNM.

Genus *Nannocyrtopogon* Wilcox and MartinNannocyrtopogon Wilcox & Martin, 1956: 449.Type-species, Cyrtopogon ceruleus Osten Sacken.(7) deserti Wilcox & Martin, 1957: 380.

Types ♂♀, Littlerock, Cal., CAS.

Geographic range: USA (California).

California records:

Kern Co.: Dove Well, V-1 '64 (J. Powell) CIS, 5 mi. N. W.,  
 V-1 '64 (C. A. Toschi) CIS; Short Cyn., 6 mi. W. Inyokern, IV-11 '62  
 (J. W. MacSwain, R. W. Thorp) CIS; 16 mi. S. Weldon, IV-26 '64  
 (J. Powell, C. A. Toschi) CIS.

Los Angeles Co.: Littlerock, V-2 '48, V-3 '41 (Guy F. Toland,  
 J. Wilcox) CAS, JW; Piute Butte, IV-27 '57 (J. Wilcox) JW.

(7) inyo Wilcox & Martin, 1957: 384.

Types ♂♀, Independence, Cal., CAS.

Geographic range: USA (California).

California records:

Inyo Co.: Independence, and 3 mi. W., V-5 '66, V-18 '56,  
 V-25 '57, VI-12 '58 (Ito J. and J. Wilcox) CAS, JW; Lone Pine,  
 V-31 '37 (E. C. Van Dyke) CAS, VI-1 '41 (R. M. Bohart) UCD, VI-10  
 '49 (J. Wilcox) JW; Olancho, V-18 '56 (J. Wilcox) JW; Short Cyn.,  
 3 mi. W. Brown, IV-14 '62 (R. M. Bohart) UCD.

Kern Co.: Short Cyn., 7 mi. N. W. Inyokern, IV-17 '55 (C. D.  
 MacNeill) larkspur flowers, CIS.



(1) irvinei Wilcox & Martin, 1957: 384.

Types ♂♀, The Gavilan, Cal., CAS.

Geographic range: USA (California).

California records:

Los Angeles County: Crystal Lake, 4700', VII-9 '52 (Miyagawa)  
 UCD; Tanbark Flat, VI-17 to VII-20 and other mountain locations.  
 Riverside Co.: Dripping Springs F. C., V-11 '53 (J. Wilcox) JW;  
 Pinyon Flat F. C., V-10, 11 '53 (C. H. and D. Martin, J. Wilcox) CHM,  
 JW, V-24 '39 (E. G. Linsley) CAS; The Gavilan, V-21 '41, V-23 '48  
 (M. I. Irvine, Guy F. Toland, J. Wilcox) CAS, JW, Hills, IV-30 '33  
 (A. J. Basinger) USNM.

(2) lestoviformis Wilcox & Martin, 1936: 454.

Type ♂, San Diego Co., Cal., CSU.

Geographic range: USA (California).

California records:

Imperial Co.: Kane Springs, IV-22 '64 (A. R. Gittins) UI.  
 Riverside Co.: Andreas Cyn., IV-21 '51 (R. C. Bechtel) UCD;  
 Aguanga, V-11 '53 (C. H. Martin, J. Wilcox) CHM, JW, UCD; Banning,  
 IV-15 '53 (J. Wilcox) JW; Chino Cyn., nr. Palm Springs, IV-21 '60  
 (J. F. Lawrence) Malacothamnus fasciculatus, CIS; Dripping Spgs. F. C.,  
 V-3 '62 (J. Wilcox) JW; Pinyon Flat F. C., V-10 '53, V-26 '48 (A. F.  
 Howland, C. H. Martin, Guy F. Toland, J. Wilcox) CHM, JW, UCD; Santa  
 Rosa Mt., V-24 '36 (A. J. Basinger) CAS.

San Diego Co.: Aguanga, IV-2 '62 (E. I. Schlinger); Culp Cyn.,  
 Anza S. P., IV-4 '59 (E. I. Schlinger) UCD; Desert Edge, IV-14 '15 (M. C.  
 Van Duzee) CSU; Oak Grove, IV-20 '52 (C. H. and D. Martin) CHM, V-9 '45  
 (A. L. Melander) USNM; Pine Vly., VI-16 '63 (Paul A. Rude) CIS; 8 mi. N.  
 Scissors Crossing, V-17 '64 (P. M. Estes, M. J. Wargo) UCR.

(2) monrovia Wilcox & Martin, 1936: 453.

Types ♂♀, Monrovia Canyon, Cal., CAS.

Geographic range: USA (California).

California records: Los Angeles, Riverside, San Bernardino, San Diego, Santa Barbara and San Luis Obispo. Mainly west of mountains.

Los Angeles Co.: Monrovia Cyn., VII-20, VIII-3 '30 (C. H. and D. Martin, R. H. Painter, T. F. Winburn) CAS, CHN, RHP; and other mountain localities.

Riverside Co.: Pinyon Flat, S. Rosa Mt., V-27 '41 (D. J. and J. N. Knull) CSU.

San Bernardino Co.: Cajon Pass, VI-26 '41 (D. J. and J. N. Knull) CSU.

(7) neoculatus Wilcox & Martin, 1957: 386.

Types ♂♀, Pinyon Flat, Cal., CAS.

Geographic range: USA (California).

California records:

Riverside Co.: San Jacinto Mts., Pinyon Flat, V-15 '41 (E. C. Van Dyke) CAS, V-9 to 26 '48, '53 (C. H. and D. Martin, Guy F. Toland, Ito J. and J. Wilcox) CAS, CHN, JW, IV-20 '53 (F. X. Williams) CAS

H. A. Hespenheide (1978) article on "Prey, Predator and Courtship Habits".

(2) nigricolor (Coquillett), 1904: 183 (Cyrtopogon).

Type ♀, Los Angeles Co., Cal., USNM.

Geographic range: USA (California).

California records: Kern, Los Angeles, Mariposa, Orange, Riverside, San Bernardino, San Diego, Santa Barbara and Ventura Counties. Mainly localities west of the mountains.

Los Angeles Co.: Oak Flat Camp, V-13 '56 (J. Wilcox) JW.

Riverside Co.: Banning, VI-5 '39, CIS.

San Diego Co.: Jacumba, V-18 '41 (D. J. and J. N. Knull) OSU;  
Mt. Palomar, Nate Harrison grade, 3500', VI-2 '68 (S. Freeman) UCR;  
Mt. Laguna, VI-29 '62 (J. F. Lawrence) CIS.

(7) oculatus Wilcox & Martin, 1936: 452.

Type ♂, Lost Hills (Mint Canyon), Cal., CAS.

Geographic range: USA (California).

California records:

Kern Co.: Lost Hills, IV-11 '32 (E. P. Van Duzee) CAS.

Los Angeles Co.: Mint Cyn., IV-20 '32 (E. P. Van Duzee) CAS;  
Palmdale, 4 mi. S., V-10 '41, V-23 '42, V-2, 29 '48 (Guy F. Toland,  
Ito J. and J. Wilcox) JW.

(7) timberlakei Wilcox & Martin, 1957: 390.

Types ♂♀, Oro Grande Wash, Cal., UCR-CAS.

Geographic range: USA (California).

California records:

Los Angeles Co.: Littlerock, V-3 '41 (J. Wilcox) JW, 1. mi. W.,  
IV-5 '59 (J. W. MacSwain) CIS; Llano, V-15 '55 (Simonds) CDA; 5 mi. S.  
Pearblossom, IV-23 '56 (E. G. Linsley) Tamarix galica, CIS.

San Bernardino Co.: nr. Adelanto, IV-28 '49 (A. L. Melander) USNM;

Cajon Pass, V-20 '51 (R. C. Bechtel) UCD, IV-28 '49 (Grace H. and John L. Sperry) USNM; Deep Crk., V-9 '56 (E. G. Linsley) CIS; Oro Grande Wash, 11 mi. S. Adelanto, V-9 '48 (P. H. Timberlake) UCR, V-4, 25 '57, V-6 '56, IV-30 '64 (Itol J. and J. Wilcox) JW; Wrightwood, 5000', V-25 '59 (B. J. Adelson, H. Ruckes, Jr.) CIS.

San Luis Obispo Co.: 10 mi. W. Simmler, C-5 '62 (J. Powell) CIS.

We took this species at Littlerock in 1941 but failed to get any more in or near that locality. On the examination of Mr. Timberlake's specimens we went to 11 mi. S. of Adelanto and found them nearly swarming on the logs of Joshua Trees.

(7) tolandi Wilcox & Martin, 1957: 391.

Types ♂2, Lone Pine, Cal., CAS..

Geographic range: USA (California).

California records:

Inyo Co.: Bigpine, V-18 '56, V-25 '57, 7500-8500', VII-6 '57 (Itol J. and J. Wilcox) JW, Creek, VI-15 '65 (F. D. Parker) UCD, 7500', VI-12, 13 '42 (R. M. Bohart) UCD, Glacier Lodge, 8000-9000', VII-6 '57 (C. H. and D. Martin) CRM, UCD; Bishop, VI-11 '49 (Guy F. Toland, J. Wilcox) JW; Independence, V-5 '66, V-18 '56 (J. Wilcox) JW; Lone Pine, 7.3 mi. W., VII-11 '65 (Ballmer & Bath) UCR, Whitney Rd., VI-12, 17 '57 (E. C. Van Dyke) CAS, V-30 '48, VI-1 '49 (Guy F. Toland, J. Wilcox) CAS, JW; Panamint, Mts., <sup>Magazine Cyn, 6800', VII-4 '71 (J.Bice)</sup> VII-10 '65 (Ballmer & Bath) UCR; ~~Rockett~~ Whitney Portal, VI-3 '53 (D. D. Linsdale) CIS, C. G., VII-11 '65 (Ballmer & Bath) UCR.

(7) species, new

Geographic range: USA (California).

Riverside Co.: Joshua Tree N.M., Hidden Vly, V-3 '62 (J. Wilcox) JW.

California records: San Bernardino Co., Lower Covington Flat, IV-30 '60 (E. L. Sleeper, M. L. West) CSULB.



(4) ? mingusi Wilcox & Martin, 1957: 386.

Types ♂2, Mingus Mt., Arizona, VII-3 '49 (J. Wilcox) CAS.

Geographic range: USA (Arizona, California and Nevada).

California records:

San Bernardino Co.: Granite Pass, 3800-4320', IV-27 '68

(S. I. Schlinger) UCR.

new species, cont'd. p. 151

Riverside Co.: Joshua Tree N. M., Pinyon Wells and Quail  
Guzzler, April 6 to May 7, data from Eric Fisher (1970)CSULB;  
Hidden Vly., V-3 '68 (J. Wilcox) JW.

Genus Ospriocerus Loew

Ospriocerus Loew, 1866: 29.

Type-species, Dasypogon seacus Wiedemann, equals Asilus abdominalis Say.

(2) abdominalis (Say), 1824: 375 (Asilus).

Type ♀, Northwest Territory, lost.

Geographic range: Canada (Alberta); USA (Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Texas, Utah and Washington); Mexico (Chihuahua, Coahuila, Durango, Nuevo Leon, San Luis Potosi and Tamaulipas).  
California records:

Mono Co.: Topaz Lk., VII-17 '51 (C. A. Downing) CIS.

San Bernardino Co.: New York Mts., IX-3 '45, LACMNH.

(7) brevis Martin, 1968b: 411.

Type ♂, Randsburg, Cal., UCD.

Geographic range: USA (Arizona, California and Nevada); Mexico (Baja California and Sonora).

California records:

Imperial Co.: Kane Spgs., Ocotillo and Palo Verde, March to May.

Riverside Co.: Many records March and April.

San Bernardino Co.: Amboy, Ludlow and Yermo, Essex: April.

San Diego Co.: Borrego and Ocotillo; March, April and August.

See pp. 152a, 152b

(2) vallensis Martin, 1968b: 420.

Types ♂2, Grandview, Idaho, CAS.

Geographic range: USA (California, Colorado, Idaho, Nevada, Oregon and Utah).

California records: Inyo Co.: 22.7 mi. E. Bigpine on Westgard Pass Rd.,

Imperial Co.: bet. Indio and Kane spgs., III-25 '33 (H. L. McKenzie) USNM; Kane Spgs., III-22 '41 (G. P. McKenzie) UCR; Ocotillo, IV-21 '66 (M. W. Stone) JW; Palo Verde, IV-2 '68, IV-3 '66 (R. M. Bohart, R. O. Schuster) UCD, 3 mi. S., IV-7, 8 '49, V-9 '63 (P. D. Hurd, R. L. Langston) CIS.

Kern Co.: Randsburg, V-1 '52 (R. M. Bohart) UCD.

Riverside Co.: Andreas Cyn., IV-7 '40 (R. M. Bohart) UCD; 18 mi. W. Blythe, IV-2, 3 '63, IV-9 '62 (R. M. Bohart, M. E. Irwin, F. D. Parker) UCD, IV-15 '58, IV-17 '59 (P. H. Timberlake) asleep on grass, UCR; Deep Cyn., IV-6 '63 (J. Powell) CIS, IV-4 '63 (C. Wilkinson) UCR; 10 mi. E. Desert Center, IV-13 '41 (N. R. Anderson, J. Wilcox) JW; Hopkins Well, III-30 '59, IV-14, 16 '58, IV-28 '49, IV-29 '52 (J. E. Gillaspay, P. D. Hurd, E. G. Linsley, J. W. MacSwain, J. Powell, J. G. Rozen) CIS; Indio, IV-16 '52 (Grace H. and John L. Sperry) USNM, 6 mi. W., IV-30 '49 (E. G. Linsley, J. W. MacSwain, R. F. Smith) meloid prey, CIS; Mecca, IV-9 '53 (E. G. Linsley) Gerraea canascens, CIS, IV-13 '41 (J. Wilcox) JW; Palm Springs, IV-12 '41 (J. Wilcox) JW; Thousand Palms, III-31 '63, IV-2 '66 (R. M. Bohart, D. R. Miller, F. D. Parker, R. O. Schuster, A. Willink) UCD, IV-3 '49 (R. A. Flock) UCR, 5 mi. E., III-31 '63 (L. D. Anderson) UCR, 1 mi. E. (Jct. U.S. 10 & Ramon Rd.), III-25 '66 (Saul and Suzy Frommer) UCR.

San Bernardino Co.: Amboy, 22 mi. S., IV-11 '66 (J. Wilcox) JW;  
*11.2 mi. N. Goffs, V-3 '71 (J.C. Hall) UCR;*  
 Essex, 8 mi. N., IV-14 '66 (R. L. Penrose) UI; Ludlow, IV-30 '37 (H. B. Leech) CAS; Yermo, IV-25 '66 (J. Wilcox) JW.

San Diego Co.: Borrego, IV-8 '39, IV-10 '33 (R. M. Bohart, H. S. Gentry) UCD, Vly., IV-10, 11 '52, IV-24 '49, IV-27 '55, V-1 '52 (J. E. Gillaspay, P. D. Hurd, E. G. Linsley, J. W. MacSwain, C. A. Marsh, R. F. Smith) CIS, IV-19 '41 (N. R. Anderson, J. Jr. and J. Wilcox) JW, Coyote Crk., IV-5 '63

San Diego Co. cont'd.

(Willink, A.) UCD, Palm Cyn., III-29 '36 (F. R. Platt) UCR, Tub  
Cyn., IV-5, 20 '49 (N. Crickmer, Grace H. and John L. Sperry) USNM;  
Ocotillo, IV-6, 12 '49, VIII-26 (P. D. Hurd, C. A. Marsh).



VII-13 '63 (M. R. Lundgren) CAS.

Mono Co.: Blanco's Corral, White Mts., 10000', VII-15 '53

(J. W. MacSwain) CIS.

(?) longulus (Loew), 1866: 50 (Stenopogon).

Types ♂♀, New Mexico (Capt. Pope), MCZ.

Geographic range: (Arizona, ?California, New Mexico and Texas);  
Mexico (Chihuahua, San Luis Potosi and Tamaulipas).

California records:

San Bernardino Co.: Daggett, J14, CDA. (A ♀ specimen in poor  
condition probably taken from a car at the inspection station). In  
Arizona this species has not been found west of Phoenix.

## Genus Pritchardomyia Wilcox

Pritchardomyia Wilcox, 1965: 208.

Type-species, Anisopogon vespoides Bigot.

(2) vespoides (Bigot), 1878: 423 (Anisopogon).

Type ♂. California, Hope Museum, Oxford.

Geographic range: USA (California).

California records: Alameda, Calaveras, Kern, Mariposa, Monterey, San Mateo, Santa Cruz, Sonoma, Stanislaus and Tuolumne Counties.

Kern Co.: Antelope Springs, Tehachapi Mts., IX-12 '75 (John D. Pinto) UCR. A marginal desert area.

(2) species, new ?

Riverside Co.: Herkey Crk. C. G., San Jacinto Mts., VIII-31 '62 (J. Asher) EF. A marginal desert area similar to Pinyon Flat.

Genus *Prolepsis* Walker*Prolepsis* Walker, 1851: 101.Type-species, *fumiflamma* Walker (mon.) = *lucifer* (Wiedemann).*Dizonias* Loew, 1866: 29.Type-species, *phoenicurus* Loew = *tristis* (Walker).

Lamas M. (1973) also lists *Cacodaemon* Schiner (1866), *Sphareus* Loew (1866), *Tolmerolestes* Lynch Arribalzaga (1881), and *Cacodaemonides* Strand (1928) as synonyms.

*tristis* (Walker), 1851: 95 (*Dasypogon*).

Type ?, America, BMNH.

Lamas M. (1973) lists *quadrimaculata* (Bellardi) (1861), *lucasi* (Bellardi) (1861), *phoenicurus* (Loew) (1866), *bicinctus* (Loew) (1866), *pilatei* (Johnson) (1903), *albifasciatus* (Baek) (1905), and *brambleyi* (Carrera & d'Andretta) (1950), as synonyms.

Geographic range: USA (Florida to California in the southern part); Mexico (Colima, Jalisco, Michoacan, Morelos and Nayarit) and British Honduras?.

## California records:

Imperial Co.: Palo Verde, VIII-15, 20 '46 (W. F. Barr) CIS.

Riverside Co.: Blythe, VII-21 '42, VIII-11 to 13 '46 (P. D. Hurd, R. F. Smith, W. F. Barr) CIS, VII-26 '51 (J. A. Comstock) LACMNH, VIII-12 '58 (C. M. Dammers) USNM; Ripley, VIII-20 '46 (J. W. MacSwain, P. D. Hurd) CIS.

Genus Scleropogon Loew

Scleropogon Loew, 1866: 26.

Type-species, picticornis Loew.

(4) duncani(Bromley), 1937: 307 (Stenopogon).

Types ♀, Silver City, New Mexico, CAS.

Geographic range: USA (Arizona, California, Nevada, New Mexico and Texas); Mexico (Baja California and Sonora).

California records: Imperial, Riverside, San Bernardino and San Diego Counties; April to June, and October. All desert records.

See p. 154.

(2) neglectus(Bromley), 1937: 430. (Stenopogon).

Types ♀, Lander, Wyo., CSU.

Geographic range: USA (Arizona, California, Colorado, Idaho, Oregon, Utah, Washington and Wyoming).

California records:

Inyo Co.: Bigpine, VII-10 '53 (D. D. Linsdale) CIS, VII-12 '53 (J. Wilcox) JW; Blancos Corral, White Mts., 10150', VIII-1 '51 (J. E. Gillaspay) CIS winged grasshopper prey, CIS.

Mono Co.: White Mts., 10000', VII-10 '68 (D. S. Horning) UCD.

(?) picticornis Loew, 1866: 26.

Type ♀, California, MCZ.

Geographic range: USA (Arizona, California, Colorado, Nevada and New Mexico); Mexico (Baja California Sur, Chihuahua and Sonora).

California records: type ♀, Back (1909) identified a pair from Cal. from C. W. Johnson Coll., BSNH now MCZ. Common in Arizona but no records west of Ashfork or Phoenix.



Imperial Co.: Palo Verde, VIII-15 to 27 '46 (W. F. Barr, P. D. Hurd) pair, CIS, IV-2 '68 (R. O. Schuster) UCD, 2 mi. S., IX-18 '59 (J. A. Chemsak, P. D. Hurd, J. W. MacSwain) Pectis papposa, CIS, 3 mi. S., IV-18 '49, IV-9 '63 (P. D. Hurd) CIS.

Riverside Co.: 18 mi. W. Blythe, IV, 29, 30 '32 (P. H. Timberlake) UCR, 20 mi. W., X-17 '59 (J. A. Chemsak) CIS; Hopkins Well, IV-16 '58, IV-17, 28 '49, IV-29 '52 (J. E. Gillaspay, P. D. Hurd, G. A. Marsh, <sup>Joshua Tree N.M., Fried Liver Wash, Pleasant Vly., VI-12, 14, CSULB, EF;</sup> J. Powell, L. W. Quate) CIS; Palm Springs, V-28, 31 '43 (Guy F. Toland, J. Wilcox) JW.

San Bernardino Co.: 13 mi. W. Baker, V-3 '66 (M. Jay, J. M. Davidson) ASU; 2 mi. N. E. Twentynine Palms, V-24 '66 (J. Wilcox) JW; Yermo, V-23 '40 (M. Cazier, W. Reeves, P. C. Ting) CAS, V-25 '66, V-31 '41 (Dan and Guy F. Toland, J. Wilcox) JW.

San Diego Co.: Borrego, IV-25 '55, V-1, 2 '52 (P. D. Hurd, G. A. Marsh, J. G. Rozen, P. H. Timberlake) CIS, UCR, IV-30, V-5 '46 (Grace H. and John L. Sperry) USNM, Tub Cyn., IV-18 '57 (N. Criskmer, Grace H. and John L. Sperry) USNM, Vly., V-23 '64 (J. E. Slanksy) CDA, Vly. dunes, IV-18 '57 (R. C. Bechtel, R. M. Bohart, R. W. Bushing, H. R. Moffitt, E. I. Sählinger) UCD; Clark Vly., Colorado Desert, V-2 '32 (H. Gentry) CAS; bet. Narrows and Sentenec, V-22 '41 (R. C. Dickson) UCR; San Felipe Crk., VI-6 '33 (H. L. McKenzie) UCR.

genus Sintoria Hull

Sintoria Hull, 1962: 197.

Type-species, emeralda Hull.

(7) mojavae Wilcox, 1972a: 50.

Type ♀, Grapevine Spgs. (Cushenbury Spgs.), San Bernardino Co., Cal., IX-18 '48 (J. Wilcox) CAS.

Only known specimen from California. These flies <sup>(other species)</sup> range from Arizona and Utah to Texas. In Mexico they are found in: Aguascalientes, Baja California Sur, Guanajuato, Jalisco, Mexico, Puebla, San Luis Potosi and Zacatecas.

(4) cyanea Wilcox, 1972a: 53.

Types ♂♀, Sabino Cyn., Santa Catalina Mts., Arizona, X-20, 25 '62 (J. Wilcox) CAS.

Geographic range: USA (Arizona and California); Mexico (Sonora).

California records:

San Bernardino Co.: 4.2 mi. S. E. Ivanpah, X-18 '78 (A. Mayor),

Chrysotoxmus, Gutierrezia, UCR.

Genus *Stenopogon* Loew*Stenopogon* Loew, 1847: 453.Type-species, *Asilus sabaudus* Fabricius.(7) *adelantae* Wilcox, 1971: 13.

Types ♀, 11. Mi. S. Adelanto, Cal., CAS.

Geographic range: USA (California).

California records: Los Angeles, Riverside, San Bernardino, San Diego, Santa Barbara and Ventura Counties.

Los Angeles Co.: 5 mi. S. Lancaster, V-15 '56 (E. G. Linsley, J. W. MacSwain) CIS; Littlerock, V-15 '53, V-23 '42 (Guy F. Toland, J. Wilcox) JW; Palmdale, V-4 '57, V-23 '42, V-29 '48, VI-10 '49 (Guy F. Toland, J. Wilcox) JW.

Riverside Co.: top of Berdoo Cyn., VI-14 '63 (S. I. Schlinger) UCR.

San Bernardino Co.: 11 mi. S. and 5 mi. N. Adelanto, V-20 '48, V-25 '57 (Itol J. and J. Wilcox) CAS, JW; Apple Vly., V-9 '58 (P. D. Hurd) CIS, nr. Arrastre Cyn., V-20 '41 (P. H. Timberlake) UCR; Deep Crk., V-16 '37 (P. H. Timberlake) UCR; Hesperia, V-16 '37 (P. H. Timberlake) UCR, 4 mi. E., Mojave R., V-16 '37 (P. H. Timberlake) UCR; 2 mi. W. Phelan, V-22 '57 (J. C. Hall) UCD.

San Diego Co.: Culp Cyn., IV-2 '62 (S. I. Schlinger) UCR.

(1b) *albibasalis* Bigot, 1878: 422.

Type ♂, California, Hope Mus., Oxford.

Geographic range: USA (California and Nevada).

California records: Tuolumne County and north to Siskiyou Co.

Back (1909) reports from Los Angeles Co. (Coquillett) which appears to be in error.

(3) antoniae Wilcox, 1971: 82.

Types ♂♀, Claremont, Cal., CAS.

Geographic range: USA (California).

California records:

Los Angeles Co.: (Goquillett-112) USNM; Tanbark Flat, VII-8 '52 (J. J. Menn) CIS.

San Bernardino Co.: 4 mi. N. W. Cajon Jct., VII-4 '58 (E. I. Schlinger) UCD; Claremont, VI-22 and VIII-31 '41 (Guy F. Toland, J. Wilcox) CAS, JW; Mountain Home. VIII-8 '58 (J. C. Hall) UCD.

(3) bartoniae Wilcox, 1971: 17.

. Types ♂♀, Barton Flats, Cal., CAS.

Geographic range: USA (California).

California records: Fresno, Inyo, Kern, San Bernardino and Tulare Counties:

Inyo Co.: Lone Pine, V-30 '48 (J. Wilcox) JW, VI-28 '59 (J. C. Downey) Sill. Univ., Crk., 10250', VII-7 '61 (H. V. Daly) CIS; Whitney Portal, VIII-6 '48 (P. D. Hurd, J. W. MacSwain) CIS; Whitney Rd., VI-12 '37 (E. C. Van Dyke) CAS.

Kern Co.: Walker Pass, VIII-23 '63 (J. Wilcox) JW.

San Bernardino Co.: Barton Flats, 6500' and S. Fork F. C., VI-30 to VIII-2 '38 to '42, '47, '64 (M. W. Stone, Guy F. Toland, Ito J. and J. Wilcox) CAS, JW; and other localities in the San Bernardino Mts.



(4) arnaudi Martin, 1968a: 375.

Types ♂♀, Rancho Viejo, 7000', VI-14 '53, Sierra San Pedro Martir, Baja California, Mexico (Paul H. Arnaud, Jr.) CAS.

Geographic range: USA (Arizona and California); Mexico (Baja California N.).

California records:

Riverside Co.: Indio, IV-4 to V-7 '41, '42 (M. R. Anderson, A. F. Howland, Itol J., J. Jr., and J. Wilcox) JW; La Quinta, IV-22 '58 (J. C. Hall) U&D; 6 mi. W. Mecca, IV-22 '58 (J. C. Hall) UCD; Pinyon Flat, V-30 (39 (B. Brookman) CAS, V-21 to VI-16 '41 to '66 (A. F. Howland, M. W. Stone, J. Wilcox) JW; Thousand Palms, V-5 '66 (J. C. Hall) UCR; White Water, V-13 '66 (J. Wilcox) JW.

San Bernardino Co.: 3 mi. E. Yucca Vly., V-25 '66 (J. Wilcox) JW.

San Diego Co.: Anza S. P., IV-23 '31 (E. J. Taylor) UCD; Culp Cyn., IV-2 '62 (E. I. Schlinger) UCR; Jacumba, IV-13 '53 (J. Wilcox) JW; Scissors Crossing, 2240-2800', V-4 '69 (E. I. Schlinger) UCR.

(2) boharti Bromley, 1951: 6.

Types ♀♀, Yuma, Arizona, USNM.

rossi Martin, 1968a: 393.

Type ♂, Concepcion Bay, Baja California, CAS.

Geographic range: USA: (Arizona and California); Mexico (Baja California Sur, Chihuahua, Sinaloa and Sonora).

California records:

Imperial Co.: 12 mi. S. Palo Verde, IV-19 '62 (Eric Fisher) EMF.

Inyo Co.: Death Vly., VI-11 '52 (R. L. Levin) CIS.

Riverside Co.: Deep Cyn., VI-14 to VII-1 '64, '69 (K. W. Brown, P. A. Rauch, Saul Frommer, E. I. Schlinger, B. Worley) part in malaise trap, UCR; Hayfield Rd., 6.5 mi. W. Hwy. 60-70, VII-4 '60 (P. H. Joshua Tree N.M., Fried Liver Wash, Pleasant Vly., VI-11 to VII-15, CSULB, EF; Timberlake) on Eriornum inflatum, UCR; 3 mi. S. Palm Desert, VI-20 '60 (R. L. Westcott) LACMNH; Palm Springs, V-31 '43 (Guy F. Toland) JW, VI-28 '52 (A. T. McCloy) UCD, Tahquitz Cyn., VI-8 '57 (Menken Stange, Bromley) LACMNH.  
San Diego Co.: 13 mi. E. Borrego Spgs., X-6 '67 (G. L. Lytle, S. A. Gorodenski, M. A. Cazier) ASU.

(3) blaisdelli Wilcox, 1971: 41.

Types ♀♀, Coronado, Cal., CAS.

Geographic range: USA (California); Mexico (Baja California N.).

California records:

Los Angeles Co.: (Coquillett, 112 or 11-2) USNM.

San Diego Co.: Coronado, X-11, 21 '90 (F. E. Blaisdell) CAS;

San Diego (F. E. Blaisdell) CAS, Mission Vly., IX-11 '27 (Van Blocker) USNM; Poway (F. E. Blaisdell) CAS; Warners, IX '20 (Geo. H. Field) SDNHM.

(2) breviusculus Loew, 1872: 68.

Types ♂♀, California (Hy. Edwards), MCZ.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Fresno, Los Angeles, Mono, Monterey, Orange, Riverside, San Bernardino, San Diego, San Francisco, San Luis Obispo and Santa Barbara Counties. Mainly found west of the mountains.

Los Angeles Co.: Solemint, IX-19 '51 (J. L. Madigan) UCD.

Mono Co.: Mammoth, VIII-9 '57 (J. Wilcox) JW.

Riverside Co.: Anza, VIII-6 '35 (Jean Russell) UK; Dripping Spgs., VIII-27 '58 (J. C. Hall) UCD; Temecula, VI-30 '56 Guy F. Toland, J. Wilcox) JW, VII-2 '63, VIII-27 '58 (J. C. Hall, I. H. Pogojeff) UCD.

San Diego Co.: Warner Spgs., VIII-26 '41 (J. Wilcox) JW.

(2) bromleyi Wilcox, 1971: 52.

Type ♂, Ventura Co., Cal., ♀, Frazier Park, Cal., USNM.

Geographic range: USA (California);

California records: Alameda, Kern, Los Angeles and Ventura Counties. Mainly west of the mountains.

Kern Co.: Walker Pass, VI-26 '49 (L. W. Isaak) CAS, USNM.

(2) californiae Walker, 1849: 322.

Type ♂, California, BMNH.

Geographic range: USA (California).

California records: Los Angeles, Orange, Riverside, San Bernardino and San Diego Counties. Mainly west of mountains.

Los Angeles Co.: Castaic, VIII-24 '41 (W. R. Cobb) JW;  
Elizabeth Lk. Cyn., VIII-16 '62 (A. Fukushima) LACMNH; Mint Cyn., VII-31 '35 (E. I. Beamer) JW; San Francisquito Cyn., VII-15 '56 (G. I. Stage) CIS; 2.5 mi. S.S.W. Valyermo, 4700', VII-6 '65 (C. Henne) JW.

Riverside Co.: White Water Cyn., IX-30 '45 (C. Henne) JW.

San Bernardino Co.: Cajon, VIII-9 '44 (A. L. Melander) USNM,  
Pass, XIII-10 (C. H. Martin) CHM; W. Fork Mojave R., X-17 '37  
(E. G. Anderson) CIS.

San Diego Co.: Mt. Palomar, VI-28 '63 (J. R. Birchim, R. L.  
Langston) CAS, CIS; 7 mi. N. Scissors Crossing, X-19 '63 (M. Wargo)  
Haplopappus junceus, UCR.

(2) engelhardti Bromley, 1937: 303.

Types ♀, Jacumba, Cal., CAS.

Geographic range: USA (California, Idaho, Nevada and Utah);  
Mexico (Baja California N.).

California records: Inyo, Los Angeles, Mono, Nevada, Orange,  
Riverside, San Bernardino, San Diego, Santa Barbara and Ventura  
Counties. Mainly west of the mountains but many records from desert  
localities.

Inyo Co.: Argus Mts., Bigpine, Bishop, Lone Pine and White Mts.

Los Angeles Co.: Mojave Desert, Palmdale, Tick Cyn., and  
Valyermo.

Mono Co.: White Mts.

Riverside Co.: Anza, Dripping Spgs., Millard Cyn., San Geronio  
Pass.

San Bernardino Co.: Hesperia, Mojave R. and Deep Crk. and Yermo.

San Diego Co.: Borrego Vly.; Jacumba, IV-26 '45 (G. P. Engelhardt)  
types ♀, CAS; Mt. Laguna, Oak Groove, San Felipe Vly., and Warner  
Springs.

See p. 161a



Inyo Co.: Argus Mts., V-22 '37 (T. Aitken, D. Little) CAS;  
 White Mts., Schulman Grove, 10500', VII-12 '65 (T. W. and W. T. Davies)  
 YU; Wyman Cyn., 10000', VI-21 '61 (J. Powell) CIS, Crooked Crk. Lab.,  
 VI '61 (J. Powell and G. I. Stage) CIS, took several hundred specimens  
 with prey but no honey bees which is the common prey of Stenopogon in  
 cultivated areas; see Powell and Stage (1962).

Los Angeles Co.: Valyermo, IV-21 '40 (R. M. Bohart) UCD.

Mono Co.: White Mts., Blancos Corral, 10000', VI-29 to VII-9 '53  
 (J. T. Brooks, J. Powell, G. I. Stage, M. Wasbauer) CIS, VII-5 to 8 '58  
 (H. Nakikihara) UCD, VII-10 '68 (R. M. Bohart, D. S. Horning) UCD,  
 Crooked Crk., 9500-10150', VI-19 to VII-19 '61, VII-5 '53 (D. D. Linsdale,  
 P. D. Hurd, J. Powell, G. I. Stage) CIS, (J. S. Buckett, D. R. Miller)  
 UCD, N. Fork Crooked Crk., nr. Naval Res., 10150', VIII-20 '63 (H. B.  
 Leech) CAS, Radio Sta., VII-10 '53 (E. G. Linsley, R. F. Smith) CIS,  
 Mt. Barcroft, 12500', VIII-9 '62 (A. S. Menke, L. A. Stange) UCD.

San Bernardino Co.: Hesperia, V-16 '37 (P. H. Timberlake) UCR;  
 Mojave R. and Deep Crk., IV-30 '39 (P. H. Timberlake) UCR; Yermo,  
 IV-25 '53 (P. H. Timberlake) UCR.

(3) inquinatus Loew, 1866: 27.

Types ♂♂, Nebraska (Heyden), MCZ.

modestus Loew, 1866: 26.

Type ♀, North Red River (Kannicot), MCZ.

morosus Loew, 1874: 356.

Types ♂♀, Sierra Nevada, Cal. (H. Edwards), MCZ.

Geographic range: Canada (Alberta, British Columbia, Manitoba and Saskatchewan); USA (Arizona, California, Colorado, Idaho, Minnesota, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming.

California records: Alpine, Inyo, Kern, Lassen, Los Angeles, Modoc, Mono, Nevada, Plumas, San Bernardino, Shasta, Sierra, Siskiyou, Tehama and Trinity Co. Mainly a mountain species in California with a few desert records.

3 mi. N., VI-26 '33 (J. T. Brooks) CIS;

Inyo Co.: Big Pine Crk.; Lone Pine Crk.; Westgard Pass, and Schulman Grove, 19,000', VI-24 '61 (J. Powell) CIS, Wyman Cyn., 8,500', VI-21 '61 (J. Powell) (G. I. Stange) CIS - White Mts.,

Mono Co.: White Mts., Blanco's Corral, 10,000', VII-11 '53 (J. W. MacSwain) CIS, Crocker Ck. Lab., 19,150', VI-22, 24 '61 (J. Powell) CIS, Poison Crk., 19,000', VI-26 '61 (J. Powell) CIS.

(3) jubatus (Coquillett) in Baker, C. F., 1904: <sup>a</sup>38 (Scleropogon).

Type ♂, Claremont, Cal., USNM.

nigriverticellus Bromley, 1937: 298.

Type ♀, San Diego, Cal., UK.

Distribution: USA (Arizona and California); Mexico (Baja California N.).

California records: Mainly in land with a few desert localities.

Inyo Co.: Bigpine, VIII-10 '49 (R. A. Flock) UCR.

Los Angeles Co.: Palmdale, III-31 '29, CAS.

Riverside Co.: Pinyon Flat, V-28 '40, V-30 '39 (C. D. Michener,

Ray F. Smith, E. V. Stahl) CAS.

San Bernardino Co.: 2 mi. E. Baldwin Lk., March's Ranch Rd., 5000-6000', V-25 '68 (L. O. Tejada) UCR; Cajon Pass, VII-16 '49 (H. T. Reynolds) UCR, foot of, VI-11 '41 (E. C. Van Dyke) CAS; Twentynine Palms, V-25 '62 (Michael Hain) UCR.

San Diego Co.: Oak Grove, VI-1 '41 (Edith, Thelma and <sup>G</sup> Guy F. Toland, J. Wilcox) JW; 12 mi. N. Scissors Crossing, VII-15 '63 (H. R. Moffitt) UCR.

(3) lance Wilcox, 1971: 20.

Types ♂♂, Riverside, Cal., CAS.

Geographic range: USA (California).

California records: Los Angeles, Orange, Riverside, San Bernardino and Ventura Counties. Most records west of the mountains.

Riverside Co.: Banning, VII-2 '52 (H. L. Mathis) UCD; 8 mi. W. Beaumont, VII-24 '57 (J. C. Hall) UCR; Cabazon, VI-19 '49 (Guy F. Toland, J. Wilcox) JW; Millard Cyn., Kitchen Peak Rd., VI-20 '63 (E. I. Schlinger) UCR; White Water Cyn., VI-7 '63 (E. I. Schlinger) UCR.

San Bernardino Co.: La Quinta, VII-15 '20 (F. R. Cole) CIS (Riverside Co. ?).

(3) macswaini Wilcox, 1971: 58.

Types ♂♂, Tanbark Flat, Los Angeles Co., Cal., CIS-CAS.

Geographic range: USA (California).

California records: Los Angeles and San Bernardino Counties. mainly a mountain species.

San Bernardino Co.: Cajon Jet., VI-7 '58 (J. C. Hall) UCD, 4 mi. N. W., VII-4 '58 (E. I. Schlinger) UCD; 2 mi. W. Cajon Pass, VI-7 '58 (J. C. Hall) UCD; 4 mi. N. E. Wrightwood, VI-7, 20 '66, '68 (J. Wilcox) JW.

(2) martini Bromley, 1937: 303.

Types ♂♀, Parma, Idaho, CAS.

Geographic range: USA (Arizona, California, Colorado, Idaho, Kansas, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. Adisoemarto (1967) report of S. obacuriventris Loew from Alberta might be better placed here.

California records: Alameda, Contra Costa, Fresno, Inyo, Kern, Lake, Los Angeles, Marin, Mariposa, Mono, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Santa Clara, Tulare and Ventura Counties. Mainly localities west of the mountains but the following desert locations.

Inyo Co.: 13.8 mi. N. E. Trona, Slate Range, IV-17 '62 (C. A. Toschi) CIS.

Kern Co.: Indian Wells, W. of Hwy. 6, IV-18 '62 (C. A. Toschi) CIS, 2 mi. N. Inyokern turnoff, IV-12 '60 (C. A. Toschi) CIS; Iron Cyn., El Paso Mts., IV-17 '62 (C. A. Toschi) CIS; Mojave, V-3 '19 (Ralph Hopping) CAS; Short Cyn., 7 mi. N. W. Inyokern, IV-18 '54 (J. W. MacSwain) CIS; 10 mi. S. Weldon, V-1 '64 (R. L. Langston, J. Powell) P. Rude) CIS.

Los Angeles Co.: Littlerock, V '62 (L. Ahtela) NGSU; Mint Cyn., V-16 '52 (S. Nakagawa) NGSU; 6 mi. W. Palmdale, IV-20 '32 (E. P. Van Duzee) CAS.

Riverside Co.: Anza, VI-20 '57 (H. R. Moffitt) UCD.

Apple Vly., V-9 '58 (P. D. Hurd) CIS;

San Bernardino Co.: Barstow, IV-21 '62 (MacNeill, Rentz, Brown, Lundgren) CAS; 18 mi. E. Ludlow, IV-9 '60 (P. A. Opler) CIS; 2 mi. W. Phelan, VI-9 '58 (J. C. Hall, E. I. Schlinger) UCD; Victorville, IV-21 '55 (R. O. Schuster) CIS, V-<sup>3</sup>~~20~~ '35 (F. R. Platt) UCD; Yermo, IV-28 '49 (E. G. Linsley, J. W. MacSwain, R. F. Smith) CIS, V-25 '66 (J. Wilcox) JW.



San Diego Co.: Borrego Vly., dunes, IV-18 '57 (H. R. Moffitt) ~~UCR~~  
 E. I. Schlinger) UCD, Coyote Crk. 4.5 mi. N. of Spgs., III-18 '60 (E. G.  
 Linsley) CIS, Palm Cyn., IV-19 '57 (J. C. Hall, E. I. Schlinger, H. R.  
 Moffitt) UCD; Warner Spg., V-15, VI-12 '58 (H. R. Moffitt) UCD, VII-14  
 '62 (J. Wilcox) winged ant prey, JW.

(7) motavae Wilcox, 1971: 68.

Types ♂♀, Yermo, Cal., CAS.

Geographic range: USA (California).

California records:

San Bernardino Co.: Yermo, V-23 '40 (W. Reeves, M. Cazier, P. C.  
 Ting) CAS, IV-12 '66 (J. Wilcox) JW.

(2) nigritulus Coquillett, 1904: 179.

Types ♂♀, Los Angeles and Kern Counties, Cal., USNM.

Geographic range: USA (Arizona and California); Mexico (Baja  
 California N.).

California records: Inyo, Kern, Los Angeles, Mono, Riverside,  
 San Bernardino and San Diego Counties. Mainly a mountain species  
 with the following desert records.

Inyo Co.: Antelope Spgs., 5500', VII-21 '67 (M. E. Irwin) UCR.

Los Angeles Co.: Crystal Lk., VI-28 '56, VI-29 '50, VII-9 '52

(R. M. Bohart, B. M. Bartosh, J. K. Hester, P. M. Marsh, H. L. Mathis,

H. F. Robinson, K. G. Whitesell) UCD.

Joshua Tree N.M., Upper Covington Flat, Piñon Wells, Pleasant Vly, Quail Garter,  
 Riverside Co.: Indio, IV-5 to V-20 '41 (N. R. Anderson, A. F.  
 Squaw Tank, IV-30 to VI-29, CSULB, EF;  
 Howland, Itoil J., J. Jr. and J. Wilcox) JW, 6 mi. W., IV-30 '49 (E. G.

Linsley, J. W. MacSwain, R. E. Smith) CIS.

San Bernardino Co.: Joshua Tree N. M., L. Covington Flat, V-14 '62,  
 Riverside Co.,  
 V-23, 28 '60 (M. Knox, E. L. Sleeper) CSULB, Hidden Vly. and Jumbo Rocks,  
 VII-8 '65 (M. W. Stone, J. Wilcox) JW.

San Diego Co.: Jacumba, V-13 '53 (J. Wilcox) JW; Mt. Palomar, VI-28 '63 (J. R. Birchim) CAS, VII-3 '63 (P. D. Hurd) Eriodictyon trichocalyx v. lanatum, CIS; VII-13 '41 (J. Wilcox) JW; Oak Grove, VI-1 '41, VI-12, 21 '42 (Guy F. Toland, J. Wilcox) JW; 7 mi. N. Scissors Crossing, V-15 '68 (Fred G. Andrews) UCR; Warner Spg., VI-12 '58 (J. C. Hall) UCD.

(3) obscuriventris Loew, 1872: 69.

Type ♀, California (H. Edwards), MCZ.

andersoni Bromley, 1937: 302.

Types ♂♀, San Jacinto Mts., Cal., UK.

timberlakei Bromley, 1937: 302.

Types ♂♀, Brentwood, Cal., USNM.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Contra Costa, Fresno, Kern, Los Angeles, Mariposa, Modoc, Monterey, Riverside, San Bernardino, San Diego, San Joaquin, San Luis Obispo, Santa Barbara, Tehama, Tulare, Ventura and Yolo Counties. Mainly found in and west of the mountains.

Inyo Co.: Baxter Crk. Rd., VII-4 '65 (J. R. Birchim) CAS.

Kern Co.: Walker Pass, VI-27 '49 (L. W. Isaak) UCD.

Mono Co.: White Mts., Blancos Corral, 10000', VII-6 '53 (J. T. Brooks) CIS.

Riverside Co.: 2 mi. W. Blythe, VI-17 '46 (W. F. Barr, E. G. Linsley) Asclepias, CIS; Cabazon, VI-19 '49 (J. Wilcox) JW; 3.4 mi. S. E. Palm Springs VI-24 '55 (P. H. Timberlake) UCR.

San Bernardino Co.: Cajon Pass, VI-24 '49 (H. E. Cott) UCD, foot of, VI-11 '41 (E. C. Van Dyke) CAS, Cajon Jct., 4 mi. W., VII-1, 4 '58 (J. C. Hall, E. I. Schlinger) winged ant prey, UCD, Vly., VI-3 '29 (E. G. Anderson) USNM; mouth Deep Crk., VI-24 '58 (J. C. Hall, A. D. Telford)

San Diego Co.: 6 mi. E. Banner, VI-25, 26 '63 (R. L. Langston, J. Powell) CIS; Borrego, Palm Cyn., V-21 '41 (R. C. Dickson) UCR; Mt. Palomar, VI '50 (F. X. Williams) CAS; Oak Grove, VI-1 '41, VI-14 '49 (Thelma and Guy F. Toland, Itol J., John, J. Jr. and J. Wilcox) JW, VI-6, 7 '40 (D. Raski, E. V. Stahl) CAS; Scissors Crossing, VI-26 '63 (E. I. Schlinger) UCD; 2 mi. N. Warner Spgs., VII-4 '56 (C. L. Wiley) CIS.

(3) pinyonae Wilcox, 1971: 62.

Type ♂, Pinon Flat, Cal., CAS.

Geographic range: USA (California).

California records:

Riverside Co.: Pinon Flat, San Jacinto Mts., Cal., V-28 '40 (E. V. Stahl) type ♂, same locality V-28 '40, V-27 '39 (H. Reynolds, W. A. Fitchen, E. S. Ross) CAS; Santa Rosa Mts., Alpine Village, 4000', VII-14 '64 (E. I. Schlinger) UCR.

(2) rufibarbis Bromley, 1931: 431.

Type ♂, Lassen Co., Cal., ♀, San Antonio Cyn., Cal., CSU.

Geographic range: Canada (Alberta and British Columbia); USA (Arizona, California, Idaho, Nevada, Oregon, Utah and Washington); Mexico (Baja California N.).

California records: From practically every county in the state, mainly in the mountains and west. Desert records below:

Inyo Co.: Lone Pine, VI-28 '59 (J. C. Downey) Sill-J, Cyn., VI-16 '52, USU.

Los Angeles Co.: Antelope Vly., V-21 '45 (S. W. Bromley) USNM; Big Pines, VI-29 '48 (A. L. Melander) USNM; Palmdale, V-6 '49 (A. L. Melander) USNM.

Riverside Co.: Anza, VI-24 '56 (G. I. Stage) CIS; S. of Banning,

3000-4000', VI-17/20 '64 (John D. Pinto) UCR; 11 mi. N. Cabazon, 5800-7000', VI-24 '64 (John D. Pinto) UCR; Toro Peak, Santa Rosa Mts., V-31 '40 (C. D. Michener) CAS.

San Bernardino Co.: Barton Flat, VII-7 '36, CAS, east, VI-3 '46 (A. L. Melander) USNM; upper San Ana R., V-22 to VII-18 '47 to '57 (A. L. Melander, Grace H. and Jogn L. Sperry) USNM.

San Diego Co.: Mt. Laguna, VI-21 '63 (H. R. Birchim) CAS; Oak Grove, VI-' '41 (A. L. Melander) USNM; Warner Spgs., V-22 '66 (H. Adelson, H. Kucks) Jr.) CIS, VI-7 '21 (Geo. Field) CIS.

(3) tolandi Wilcox, 1971: 80.

Types ♂♀, Lone Pine, Cal., CAS.

Geographic range: USA (California and Nevada).

California records:

Inyo Co.: Alabama Hills, V-24 '37 (J. H. Mitchell) CAS; Argus Mts., V-22 '36 (F. Bryant) CIS; Bigpine, VI-8 '37 (L. R. Gillogly, L. D. Phillips) CAS, VI-12 '58 (J. Wilcox) JW, Crk., VI-13 '65 (F. D. Parker) UCD; Bishop, VI-11 '49 (Guy F. Toland) JW, 3 mi. N., VI-11 '49 (L. S. Hawkins, Jr., R. L. Penrose) UI; Cartago, V-30 '63 (Eric Fisher) Death Vly, 0.3 mi. N. Bennetts Well, IV-17 '73 (G. R. Ballmer, John D. Pinto) UCR; EMF; Deep Springs, VII-5 '57 (C. H. and D. Martin, J. Wilcox) CHM, JW, Lake, VI-16 '37 (D. Little) CAS, VII-17 '53 (D. D. Linsdale) CIS; Diaz Lk., VI-7, 10 '37 (T. G. Aitken, C. A. Hamsher) CAS; Independence, VI-17 '65 (J. R. Birchim) CAS, V-31 '63 (Eric Fisher) EMF; Little Lk., VI-22 '37 (J. H. Mitchell) CAS; Lone Pine, V-16 to VI-14 '37 B. Brookman, R. C. Dickson, N. W. Frazier, L. R. Gillogly, C. A. Hamsher, D. Little, L. D. Phillips, B. E. White) CAS, VI-7 to 13 '37 (A. E. Meier) CIS, VI-10 '49 (Guy F. Toland, J. Wilcox) types ♂♀, CAS, JW, 1 mi. N., VI-14 '49 (A. Gillogly) EMF; Oak Crk., V-23 '37 (C. A. Hamsher) CAS; Owens Lk., V-20 to VI-7 '37 (T. G. Aitken, C. A. Hamsher) CAS; Paradise Camp,



VI-2 '54 (Don Burdick) CIS; Westgard Pass Plateau, V-27 '37 (T. G. Aitken) CAS.

Mono Co.: 7 mi. S. Benton Station, VII-25 '62 (R. P. Allen) CDA.

(3) utahensis Bromley, 1951: 8.

Types ♂♀, Leeds, Utah, USNM.

Geographic range: USA (Arizona, California, Nevada and Utah).

California records:

Imperial Co.: Clark Vly., V-2 '32 (H. Gentry) CAS.

Inyo Co.: Bigpine Crk., 6500', VIII-7 '66 (J. Wilcox) JW; 12 mi. S. Bishop, VII-2 '67 (M. E. Irwin) UCR; Lone Pine, 4599', IV-19 '47 (R. M. Bohart) UCD; Wyman Cyn., White Mts., VII-20 '67 (Saul and Suzy Frommer) UCR.

Mono Co.: 8 mi. W. Benton, VII-20 '64 (J. Wilcox) JW.

Riverside Co.: Carrizo Crk., V-30 '63 (E. I. Schlinger) UCR; Deep Cyn., 20-24, VI '69 (S. Frommer, B. Worley) UCR; Palm Spgs., V-2 '53 (R. M. Bohart) UCD, V-6 '46 (A. L. Melander) USNM, V-10 '41 (E. C. Van Dyke) CAS; 28-31 May '43 (A. F. Howland, Guy F. Toland, John and J. Wilcox) JW, V-30 '27 (A. C. Davis) CAS, 2 mi. N., V-10 '41 (P. H. Timberlake) UCR.

San Diego Co.: Borrego Vly. and dunes, IV-4 to V-2 '40 to '57 (J. E. Gillaspay, P. D. Hurd, M. Wasbauer) CIS, (R. C. Bechtel, R. M. Bohart, H. R. Moffitt, E. I. Schlinger) UCD, (P. H. Timberlake) UCR, (A. L. Melander, John Sperry) USNM, IV-13 '32 (H. Gentry) CAS; Tub Cyn., IV-20 '49 (N. Crickmer, Grace H. and John L. Sperry).

(3) wilcoxi Bromley, 1937: 300.

Types ♂♀, San Diego Co., Cal., UK.

Geographic range: USA (California); Mexico (Baja California N.).

California records: Los Angeles, Riverside, San Bernardino and San Diego Counties. Most records from mountains and west.

Riverside Co.: Anza, VIII-6 '35 (Jack Beamer) UK, USNM; Banning VII-2 '52 (A. T. McClay) UCD; Pinyon Flat, V-7 '39 (W. A. Fitchen) CIS; Santa Rosa Mts. (F. Grinnell, Jr.) USNM.

San Bernardino Co.: Cajon Pass, VIII-22 '31 (C. H. Martin) CHM.

San Diego Co.: Jacumba, VII-2, 3 '56 (D. J. and J. N. Knull) OSU, VIII-12 '35 (Jack Beamer) UK; Laguna Mts., VII-6 '29 (L. D. Anderson, P. W. Cnan) UK; Warner's, VII-26 to VIII-2 '27 (M. T. James) MTJ.

(3) williamsi Wilcox, 1971: 38.

Type ♂, La Mesa, San Diego Co., Cal., V-6 '54 (F. X. Williams)  
CAS, ♀, San Diego Co., Cal., IV-13 '14 (E. P. Van Duzee) CAS.

Geographic range: USA (California).

California records:

Riverside Co.: Quail Vly., V '75 (John D. Pinto) coastal sage  
scrub comm., UCR.

San Diego Co.: Ocotillo, IV (full data not found; could be in  
Imperial Co. or collected prior to separation of Imperial Co. from  
San Diego Co.).

Genus Stichopogon Loew

Stichopogon Loew, 1847: 499.

Type-species, Dasyopogon elezantulus Wiedemann.

(2) fragilis Back, 1909: 334.

Type ♂, Alamogordo, New Mexico, AESPhila.

fragilis Wilcox, 1937: 209.

Description of ♂ from Arizona.

Geographic range: USA (Arizona, California, Idaho, Nevada, New Mexico, Oregon, Utah and Washington. These small flies, 3 mm. in length are found mainly in desert areas except in California where some are found west of the mountains. It is probable that more than one species is involved and a study was begun by a graduate student at Washington State University but no results have appeared to date.

California records: from desert areas.

Joshua Tree N.M., Pleasant Vly, VI-15, CSULB, EF,  
Riverside Co.: Hopkins Well, V-29 '52 (J. G. Rozen) UCR; White  
Water, VI-7 '63 (E. I. Schlinger) UCR.

San Bernardino Co.: 25 mi. N. Needles, VI-4 '62 (J. Wilcox) JW;  
Victorville, VII-25 '58 (P. D. Hurd) CIS.

San Diego Co.: Oak Grove, VI-1 '41 (J. Wilcox) JW; Warner  
Springs, VII-4 to 17 '62 (J. Wilcox) JW.

(1) trifasciatus (Say), 1822: 51.

Type ?, Pa., lost.

Geographic range: Canada (Alberta, Manitoba, Ontario, Quebec);  
USA (all states); Mexico (widespread); and Honduras.

California records: Colusa, Humbolt, Los Angeles, Mendocino,  
Orange, Riverside, Sacramento, San Bernardino, San Diego, Siskiyou,  
Ventura and Yolo Counties. Mainly west of mountains, desert localities  
below.



Riverside Co.: Anza, VI-24, VII-3, 5 '56 (G. I. Stage, C. L. Wiley)  
CIS, (H. W. Michalk) CDA.

San Bernardino Co.: Mojave R. at Deep Crk., VIII-14 '36 (A. J.  
Basinger) collected on racks and sand in river wash, CAS; Victorville,  
V-30 '57, VII-25 '58 (P. D. Hurd) CIS.

San Diego Co.: Warner Spgs., VIII-1 to 6 '21 (Geo. Field) SDNHM,  
2 mi. N., VII-4 '56 (G. I. Stage) CIS, 5 mi. N., VI-21, VII-4, 17 '62  
(J. Wilcox) JW.

Genus *Wilcoxia* James

*Wilcoxia* James, 1941: 38.

Type-species, *cinerea* James.

(4) *martinorum* Wilcox, 1972: 43.

Types ♂♀, White Water, Cal., CAS.

Geographic range: USA (Arizona, California and Nevada); Mexico (Sonora).

California records:

Imperial Co.: Painted Gorge, Coyote Mts., VIII-22 '34 (C. D.

Michener) CIS.

Inyo Co.: Death Vly. N. M., 1.5 mi. S. W. Wildrose Sta., 3100', XI-6 '68 (P. H. Arnaud, Jr.) at flowers of *Chrysothamnus peniculatus* (Gray) Hall, CAS.

Riverside Co.: Coyote Crk., XI-6 '63 (E. I. Schlinger) UCR; Deep Cyn., #57, XI-6 to XII-22 '63, '69, I-31 to II-10 '70 (S. Frommer, M. E. Irwin, L. La Pre, E. I. Schlinger, R. Worley) at light and malaise trap, UCR; Desert Hot Spgs., L. A. Aqueduct, I-25 '47 (G. H. Sperry and John L. Sperry) USNM; Joshua Tree N. M., Pleasant Vly., Fried Liver Wash, X-22 '67, X-29 '65 (E. L. Sleeper) part blacklight, CSULB; 10 mi. S. Oasis, XI-17 '47, XII-10 '62 (A. F. Howland, Itol J. and J. Wilcox) JW; Palm Desert, X-10 '64 (Eric Fisher) EMF; Palm Springs, XI-12 '44, XI-19 '43 (A. L. Melander) USNM, XII-23 to I-21 '50 to '53 (P. H. Arnaud, Jr.) JW, XII-16, I-21 '53, '64 (M. W. Stone, J. Wilcox) JW, Chino Cyn., x22x26x XII-22-26 '50 (P. H. Arnaud, Jr.) JW, Tahquitz Cyn., XI-24 '44 (A. L. Melander) USNM; White Water, XI-23 to XII-27 '47, I-6 '48 (A. F. Howland, G. H. and D. Martin, I. J. and J. Wilcox) CHM, CIS, JW, XI-11 '66, XI-16x XII-16 '62 (Eric Fisher, R. J. Hamton) EMF.

Genus Willistonina Back

Willistonina Back, 1908: 389.

Typespecies, Habrocoxon bilineatus Williston

bilineatus (Williston), 1884: 11 (?Habrocoxon).

Type ♀, Northern California (O. T. Baron), UK.

Geographic range: USA (California, Oregon and Washington).

California records: Marin and Trinity Counties. No desert records.

bilineata nigrofemorata Wilcox, 1935: 33.

Types ♂♂, Idlewild, Cal., CAS.

Geographic range: Canada (British Columbia); USA (California, Idaho, Montana, Nevada, Oregon and Utah); Mexico (Baja California N.).

California records: Alpine, Eldorado, Inyo, Lassen, Los Angeles, Mariposa, Modoc, Mono, Plumas, Riverside, San Bernardino, San Diego, Sierra and Tuolumne Counties. Mainly a mountain species but found in and near the desert.

Inyo Co.: Bigpine, 7000-8000', VII-7 to VIII-22 '57, '63, '66 (O. H. and D. Martin, Ito J. and J. Wilcox) CHM, JW; Panamint, Panamint Mts., VII-10 '65 (Ball<sup>st</sup> & Bath) UCR.

Los Angeles Co.: Big Pines, VII-26 '65 (J. Wilcox) JW; Wrightwood, VII-20 '54 (O. H. Martin) UCD.

Mono Co.: Tom's Place and 1 mi. S., VII-17, 18 '64 (J. Wilcox) JW, 1 mi. W., VIII-13 '57 (D. D. Linsdale) CIS.

Riverside Co.: Tahquitz Cyn., VI-20 (28 (E. G. Van Dyke) CAS.

San Diego Co.: Mt. Laguna, V-23 '59, VI-21 to VII-6 '63 (P. D. Hurd, J. Powell) Eriodictyon trichocalyx v. lanatum, CIS (I. H. Pogojeff) UCD; Palomar Mt., VI-21 '66, VII-13 '41 (M. W. Stone, J. Wilcox) JW.

Subfamily Trigonimini Enderlein (1914b)

Genus Haplopegon Engel

Haplopegon Engel, 1930b: 409.

Type-species, nudus Engel.

(5) dicksoni Wilcox, 1966: 103.

Type ♂, 10 mi. E. Aztec, Arizona, IV-8 '63 (R. C. Dickson)  
swept from Sphaeralcea, UCR-CAS, ♀, 18 mi. S. Gila Bend,  
Arizona, IV-18 '65 (Mont A. Cazier) ASU-CAS.

Geographic range: USA (Arizona and California).

California records:

Imperial Co.: 7 mi. N. Ogilby, Indian Wash, V-28 '74  
(J. D. Pinto) on Acacia, UCR.



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# Appendix with a list of Species by County and Locality

The list of species by Counties and localities includes the endangered species plus the rare and new species. Some of the species listed may be rather common in California ~~west~~ of the mountains or in Arizona but are rare or rarely found in the deserts. Their chance of ultimate survival is probably best in the deserts because of the destruction of the native plants, cultivation of the soil and urban developement west of the deserts. Forest and brush fire are more numerous in and west of the mountains. Efferia peralta was quite numerous in east Anaheim prior to 1968 when a brush fire swept over thousands of acres, none of these flies have been found since the fire.

The records below indicate that most of the flies in the deserts are found on the slopes of the mountains, at or near their base, and especially in the canyons and washes that carry water all or part of the year. In the open part of the desert emergence in the winter depends on the occasional rains and in the summer on the thunder storms that come in quite frequently from the Gulf of California. Arizona gets most of it's summer rain from the Gulf of Mexico and at times these storms reach the California Desert. If the rains are general the species may be found in several localities but if spotted they will be found only <sup>in</sup> small areas and you must be there at the right time after the storm to be successful. Several examples are given below.

On August 19, 1947 we took a small series of Itolia timberlakei at White Water, Cal. so we came back the next week-end expecting to get a better series but found none. On November 11, 1941 we took a good series of Cophura timberlakei at Palm Springs, Cal. and only one or two specimens have been taken in this locality in the following years. In 1942 we crossed the California Desert from Indio to Blythe and back from Yuma to El Centro and took Ospriocerus brevis in four or more locations and in the Borrego Valley, we have not collected a specimen since then. We took a single specimen of Nannocyrtopogon timberlakei at Little Rock in 1941 but repeated trips produced no more specimens, on a lead from Mr. P. H. Timberlake we found the species numerous 11 mi. S. of Adelanto. In 1949 we took a single specimen of Nannocyrtopogon inyo at Lone Pine, later trips produced no more specimens but at Independence in 1956 we found <sup>them</sup> sitting on almost every rock.

Time of day may also be important. In Arizona in trying to collect Metapogon and Sintoria we concluded that they did not make their appearance until 3:30 in the afternoon and later. This proved to be generally true and we took some of our best catches of Metapogon and Eucyrtopogon at White Water, Cal. after 4:00 P. M. after the sun had gone down behind Mt. San Jacinto. We took our best series of Efferia caliente in both California and Arizona from 5:00 P. M. until it was too dark to see them.

Desert insects might be called ephemeral. Under favorable conditions they emerge, feed, mate and lay their eggs in a very short period of time and then are gone. Even in the mountains where weather conditions are more stable from year to year their emergence may vary so much that you may never find them again. However, Hespenheide (1978) found Nannocyrtopogon neoculatus as numerous at the type locality in 1977 as we did in 1948 and 1953. In the deserts in the heat of the summer the flies are very scarce unless you happen on a locality that has recently been drenched by a thunder storm. The best time to find these flies is in the fall, winter and spring. In recent years California entomologists have collected in the off seasons in the desert areas and have taken many new species. Several Universities send out collecting expeditions nearly every year and have covered the United States over a period of years. They have been very successful except in the arid areas with little or no rain and are usually limited to the months June to August. The eastern half of Arizona is an exception as they receive up to 30 inches of rain during July and August making it a collectors paradise. Our trips in the California deserts <sup>were</sup> ~~xxx~~ usually one day so at most we penetrated 100 miles from the western edge. There were also some overnight trips in which we went farther north and also east but in general we think that at least the 50 miles west of the Colorado River is largely unexplored.

In the following list some species will be recorded from several localities. This probably does not indicate they are numerous as maybe only one or two specimens were found at each locality.

Insects found in Various Localities in the Counties

Imperial County

Calipatria	<u>Atomosiella antennata</u> (Banks)
Glamis	<u>Efferia yuma</u> Wilcox <u>Lestomyia</u> sp. 1
Gordon's Well	<u>Itolia timberlakei</u> Wilcox
Kane Springs	<u>Efferia yuma</u> Wilcox <u>Saropogon hyalinus</u> Coquillett
Laguna Dam	<u>Cophura dammersi</u> Wilcox
Niland	<u>Atomosiella antennata</u> (Banks)
Oasis (20-25 mi. S.)	<u>Cophura dammersi</u> Wilcox <u>Efferia yuma</u> Wilcox
Cottillo	<u>Omiablaustus</u> n. sp. <u>Ospricerus brevis</u> Martin
Ogilby (Indian Wash)	<u>Haplogon dicksoni</u> Wilcox <u>Lestomyia</u> sp. 4
Palo Verde	<u>Atomosiella antennata</u> (Banks) <u>Itolia atripes</u> Wilcox <u>Ospricerus brevis</u> Martin
Potholes	<u>Lophystia duncani</u> Wilcox

Inyo County

Alabama Hills	<u>Neomochtherus</u> sp. 3
Antelope Springs	<u>Asilus formosus</u> Hine
Balarat	<u>Lestomyia</u> sp. 1
Bigpine	<u>Cophura b. rubidus</u> Wilcox <u>Diclonus medium</u> A. & W.
Bishop	<u>Cophura b. rubidus</u> Wilcox
Death Valley	<u>Ablautus coachellus</u> Wilcox <u>Eucyrtopogon</u> n. sp. <u>Furcilla</u> n. sp.
El Paso Mts.	<u>Lestomyia</u> sp. 1



Inyo County Cont'd.

Little Lake	<u>Bohartia isabella</u> A. & W.
Independence	<u>Bohartia isabella</u> A. & W. <u>Comantella cristata</u> (Coquillett) <u>Metapogon tricellus</u> Wilcox <u>Necmochtherus</u> sp. 3
Lone Pine	<u>Dicolonus medium</u> A. & W.
Mono Pass	<u>Laphria vivax</u> Williston
Onion Valley	<u>Cyrtopogon rainieri</u> W. & M.
Panamint Mountains	<u>Atmosiella antennata</u> (Banks) <u>Cophura dora</u> Pritchard <u>Cophura hesperia</u> Pritchard <u>Metadiotria resplendens</u> Loew
Trona	<u>Bohartia isabella</u> A. & W.
Westgard Pass	<u>Backomyia</u> n. sp. <u>Leptogaster</u> n. sp. <u>Prolatiforceps</u> sp.
White Mountains	<u>Leptogaster arborcola</u> Martin <u>Ospriocerus vallisensis</u> Martin

Los Angeles County

Big Pines	<u>Dioctria vera</u> Back
Bouquet Canyon	<u>Lesiopogon zonatus</u> C. & W. <u>Polacantha composita</u> (Hine)
Desert Springs	<u>Lestomyia</u> sp. 4
Lancaster	<u>Cerotainiops lucyae</u> Martin <u>Efferia tolandi</u> Wilcox
Little Rock	<u>Cophura tolandi</u> Wilcox <u>Cophura fisheri</u> Wilcox <u>Efferia arida</u> (Williston) <u>Eucyrtopogon</u> n. sp. <u>Nannocyrtopogon deserti</u> W. & M. <u>Nannocyrtopogon oculatus</u> W. & M.
Llano	<u>Bohartia isabella</u> A. & W.
Los Angeles County	<u>Heteropogon rubidus</u> (Coquillett)

Los Angeles County Cont'd.

Palmdale	<u>Nannocyrtopogon deserti</u> Wilk & M. <u>Nannocyrtopogon oculatus</u> W. & M.
Piute Butte	<u>Bohartia isabella</u> A. & W. <u>Callinicus pollenius</u> (Cole)
Valyermo	<u>Lasiopogon drabicola</u> Cole <u>Neomochtherus californicus</u> (Hine)
Vincent	<u>Cerotainiops wilcoxi</u> Pritchard
Wrightwood	<u>Laphria trux</u> McAtee <u>Parataracticus wylliei</u> Martin

Kern County

Dove Springs	<u>Nannocyrtopogon deserti</u> W. & M.
El Paso Mountains	<u>Lestomyia</u> sp. 1
Randsburg	<u>Metapogon tricellus</u> Wilcox
Rosamond	<u>Bohartia isabella</u> A. & W. <u>Callinicus pollenius</u> (Cole) <u>Leptogaster fornicata</u> Martin
Short Canyon	<u>Ablautus linsleyi</u> Wilcox
Walker Pass	<u>Hodophylax halli</u> Wilcox <u>Leptogaster californica</u> Martin

Mono County

Benton	<u>Neomochtherus</u> sp. 3
White Mts.	<u>Ombiablautus nigronotum</u> (Wilcox)

Riverside County

Andreas Canyon	<u>Cophura fur</u> Williston
Anza	<u>Beameromyia lacinia</u> Martin
Banning	<u>Stenopogon macswaini</u> Wilcox
Blythe	<u>Cophura vandykei</u> Wilcox <u>Laphystia duncani</u> Wilcox <u>Metapogon amargosae</u> Wilcox
Box Canyon	<u>Cophura rozeni</u> Wilcox

Riverside County Cont'd.

Deep Canyon	<u>Atomosia mucida</u> Osten Sacken <u>Bohartia munda</u> A. & W. <u>Cerotainiops omus</u> Pritchard <u>Cophura fur</u> Williston <u>Cophura painteri</u> Pritchard <u>Omniablaustus nigripes</u> Wilcox
Cabazon	<u>Stenopogon macswaini</u> Wilcox
Console Springs	<u>Niccules lomae</u> Cole
Desert Center	<u>Osriocerus brevis</u> Martin
Devil's Canyon	<u>Cophura fur</u> Williston
Indio	<u>Ablautus coachellus</u> Wilcox <u>Itolia timberlakei</u> Wilcox
Joshua Tree N. M.	<u>Apachekolos crinitus</u> Martin <u>Efferia</u> n. sp. <u>Lestomyia</u> sp. 1 <u>Metapogon tricellus</u> Wilcox <u>Nannocyrtopogon</u> n. sp.
Hopkin's Well	<u>Stichopogon fragilis</u> Back ?
McCoy Springs	<u>Cophura powersi</u> Wilcox
Oasis	<u>Ablautus coachellus</u> Wilcox
Palm Springs	<u>Backomyia anomala</u> W. & M. <u>Cophura timberlakei</u> Wilcox <u>Cophura vandykei</u> Wilcox <u>Eucyrtopogon</u> n. sp. <u>Metapogon carinatus</u> Wilcox <u>Metapogon tricellus</u> Wilcox <u>Omniablaustus tolandi</u> Wilcox
Pinyon Flat	<u>Cophura pollinosa</u> <del>Ritzmann</del> Curran <u>Eudictoria dissimilis</u> A. & W. <u>Machimus</u> nr. <u>callidus</u> Williston <u>Promachus</u> sp. <u>Stenopogon pinyonae</u> Wilcox
Santa Rosa Mts.	<u>Stenopogon pinyonae</u> Wilcox
Tahquitz Canyon	<u>Holopogon crinatus</u> Martin <u>Metadioctria rubida</u> (Coquillett)

Riverside County Cont'd.

White Water

Backomyia anomala W. & M.  
Cophura timberlakei Wilcox  
Eucyrtopogon n. sp.  
Itolia timberlakei Wilcox  
Metapogon carinatus Wilcox  
Metapogon tricellus Wilcox  
Stichopogon fragilis Back ?

San Bernardino County

Adelanto

Hodophylax halli Wilcox  
Saropogon hvalinus Coquillett

Amboy

Cophura powersi Wilcox  
Ospriocerus brevis Martin

Baker

Efferia vermo Wilcox

Baldwin Lake

Bohartia munda A. & W.

Barton Flat

Coleomyia crumorum Martin  
Nannodictoria albicornis W. & M.

Big Bear Lake

Lasioptogon n. sp.  
Neomochtherus sp. 2

Cajon Pass and Junction

Metadietoria rubida (Coquillett)  
Nannocyrtopogon monrovia W. & M.  
Stenopogon antoniae Wilcox

Carson's Well

Cophura fur Williston

Cronise

Efferia vermo Wilcox

Cushenbury Springs (Box S Spg.)

Comantella cristata (Coquillett)  
Efferia tolandi Wilcox  
Sintoria mojaveae Wilcox

Hanna Flats

Backomyia hanna W. & M.  
Bohartia munda A. & W.  
Holopogon crinitus Martin  
Lestomyia montis Cole

Harper Dry Lake

Comantella cristata (Coquillett)

Joshua Tree N. M.

Nannocyrtopogon n. sp.

Kramer Hills

Lestomyia sp. 1

Kelso Dunes

Efferia n. sp.

Lucerne Valley

Eucyrtopogon n. sp.



San Bernardino County Cont'd.

Ludlow	<u>Efferia vermo</u> Wilcox
Morongo Valley	<u>Cophura timberlakei</u> Wilcox
Needles	<u>Metapogon amargosae</u> Wilcox <u>Stichopogon fragilis</u> Back ?
New York Mts.	<u>Ospriocerus abdominalis</u> (Say)
Twentynine Palms	<u>Cophura vandykei</u> Wilcox <u>Metapogon amargosae</u> Wilcox <u>Omiablaustus</u> n. sp.
Victorville	<u>Myelaphus lobicornis</u> (Osten Sacken) <u>Saropogon hyalinus</u> Coquillett <u>Stichopogon fragilis</u> Back ?
Yermo	<u>Efferia vermo</u> Wilcox <u>Machimus longipennis</u> Martin <u>Ospriocerus brevis</u> Martin <u>Stenopogon mojaveae</u> Wilcox
Yucca Valley	<u>Hodophylax halli</u> Wilcox

San Diego County

Agua Caliente Springs	<u>Efferia caliente</u> Wilcox <u>Lestomyia</u> sp. 1
Borrego Valley	<u>Cerotainiops otus</u> Pritchard <u>Cophura timberlakei</u> Wilcox <u>Ablautus arnaudi</u> Wilcox
Boulder Oaks	<u>Cerotainiops mcclavi</u> Martin
Campo	<u>Lestomyia</u> sp. 2 <u>Neomochtherus</u> sp. 1
Jacumba	<u>Lestomyia</u> sp. 2
Julian	<u>Metadioctria resplendens</u> (Loew) <u>Pogonosoma hesperium</u> Martin
Laguna Mountains	<u>Dioctria pleuralis</u> Banks <u>Laphria trux audax</u> McAtee <u>Machimus johnsoni</u> Hine ?
Oak Grove	<u>Lestomyia</u> sp. 5 <u>Metadioctria rubida</u> (Coquillett) <u>Stichopogon fragilis</u> Back ?

San Diego County Cont'd.

Scissors Crossing

Blepharepium sonorensis P. & B.

Sentenec Canyon

Efferia setigera Wilcox

Warner Springs

Ablautus vanduzeei Wilcox

Cerotainiops macclavi Martin

Efferia setigera Wilcox

Neomochtherus sp. 1

Stenopogon blaisdelli Wilcox

Stichopogon fragilis Back ?

Palomar Mt.

Dioctria pleuralis Banks

Neomochtherus montanus (Hine)

Pogonosoma hesperium Martin

Stenopogon englandi Wilcox

## II. List of Species by Counties and Localities

The preceding list included rare and unusual species a number of which were from localities near to but not found in the California Desert Area entirely. The following lists includes the species found in the various localities (some may be questioned) in the desert arranged in alphabetical order by Counties and Localities. The localities are numbered 1 etc. in each county and these numbers are shown on the map, they are listed below.

### Imperial County

1. Bard, Winterhaven, Laguna Dam.
2. Calxico, Calipatria, El Centro, Heber, Holtville, Niland,  
Seeley, Brawley and Westmoreland.
3. Glamis.
4. Gordons Well, Gray's Well (between Holtville and Winterhaven).
5. Mt. Signal.
6. Ocotillo (Coyote Wells, Coyote Mts., Mt. Springs).
7. Ogilby.
8. Palo Verde.
9. Salton Sea (East side).
10. Salton Sea (West side).

### Inyo County

1. Antelope Springs (Deep Springs).
2. Argus Mts. (Darwin, Falls).
3. Death Valley (Death Valley Jct., *and other localities marked with X*  
Saratoga Spgs., Salasberry Pass).
4. Inyo Mts.
5. Little Lake (Pine Cyn.).
6. Olancho (Cartago).
7. Panamint Mts. (Ballarat, Panamint Vly.).

Inyo County, cont'd.

8. Short Canyon.
9. *Slate Range*.
- 10 ~~8~~. Westgard Pass.
- 11 ~~9~~. White Mountains (including Mono County).

Kern County

1. Boron.
2. El Paso Mountains.
3. Indian Wells (Dove Springs, Willow Springs).
4. Mojave and vicinity.
5. Randsburg.
6. Ricardo (Red Rock Canyon).
7. Rogers Dry Lake.
8. Rosamond.
9. Saltdale.
10. San <sup>d</sup><sub>A</sub> Canyon (Short Canyon, Inyokern).
11. Walker Pass (Freeman Canyon).

Los Angeles County

1. Desert Springs.
2. Lancaster.
3. Littlerock (Pearblossom).
4. Llano (Pinon Hills, Juniper Hills).
5. Lovejoy (Buttes, Lake).
6. Mint Canyon.
7. Palmdale.
8. Piute Butte.
9. Red Rock Canyon.
10. Three Points
11. Valyermo (Big Rock Creek).
12. Wrightwood.



Riverside County

1. Blythe (Ripley).
2. Box Canyon.
3. Deep Creek (Carrizo Crk., Coyote Crk., Horsethief Crk.).
4. Desert Center (Hayfield Road).
5. Desert Hot Springs.
6. Hopkins Well (20-30 mi. S. Desert Center, 20-30 mi. W. Blythe).
7. Indio (Coachella, Mecca, Thermal).
8. Joshua Tree N. M. (top Berdoo Canyon).
9. Magnesia Canyon.
10. McCoy Springs.
11. Morongo Valley.
12. Oasis (Devil's Canyon, Salton Sea W.).
13. Palm Desert (Cathedral City, Indian Wells, La Quinta).
14. Palm Springs (Andreas Canyon, Chino Canyon, Tahquitz Canyon).
15. Pinyon Flat.
16. Rice.
17. Thousand Palms (Dos Palmas, Edom).
18. Vidal (S. of).
19. White Water (Palm Springs R.R. Station, Snow Wash, Windy Point).

San Bernardino County

1. Adelanto (and 11 miles S.)
2. Amboy.
3. Apple Valley (Hesperia).
4. Atolia.
5. Baker.
6. Barstow (Daggett).
7. Cajon Pass (Cajon Junction, Cajon Station).
8. Carson's Well.

San Bernardino County, cont'd.

9. Clark Mountains.
10. Cronise (Dry Lakes).
11. Cushmanbury Springs (Box S Springs).
12. Dale Dry Lake.
13. Earp.
14. Essex.
15. Goffs.
16. Granite Mountains (Granite Pass).
17. Harper Dry Lake.
18. Havasu (Lake).
19. Ivanpah.
20. Joshua Tree N. M.
21. Kelso.
22. Kramer Hills (Kramer Jct.).
23. Landers (Big Rock).
24. Lucerne Valley (Midway).
25. Ludlow.
26. Manix.
27. Mojave River & Deep Creek.
28. Morongo Valley.
29. Needles.
30. Newberry (Park).
31. New York Mountains.
32. Oro Grande.
33. Phelan (Desert Springs, Sheep Creek Canyon).
34. Providence Mountains.
35. Saddleback Butte (Los Angeles Co.?).
36. Salt Wells.

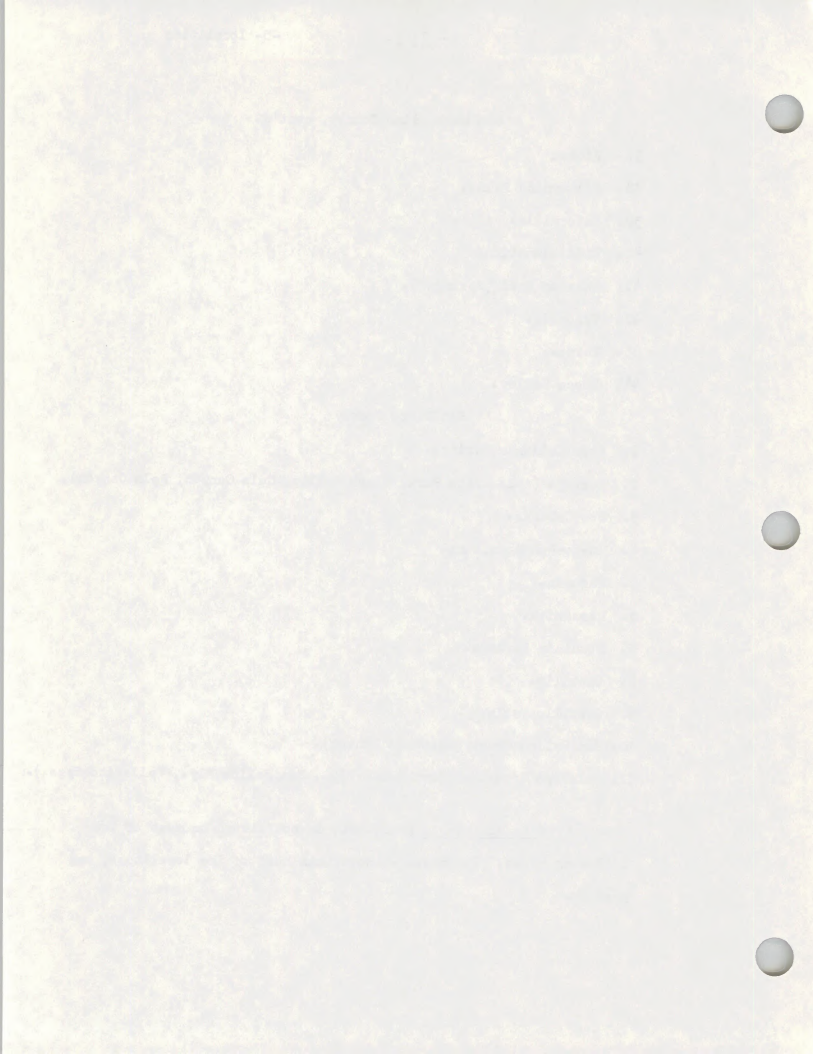
San Bernardino County, cont'd.

37. Rice.
38. Twentynine Palms.
39. Victorville.
40. Vidal Junction.
41. Wheaton Wash (Springs?).
42. Windmill.
43. Yermo.
44. Yucca Valley.

San Diego County

1. Agua Caliente Springs.
2. Borrego (Anza State Park, Clark Valley, Culp Canyon, Palm Canyon).
3. Dos Cabezas.
4. In-Ko-Pah Mountains.
5. Jacumba.
6. Manzanita.
7. Mountain Springs.
8. Ocotillo.
9. Ocotillo Wells.
10. San Felipe Creek (Sentenec Canyon).
11. Scissors Crossing (Earthquake Vly., San Felipe Vly., Vallecito Spgs.).

Note: Efferia albibarbis (Macquart) is not listed on most of the following pages. It occurs at more than half of the localities, see page 7a.





-210-

County Imperial <sup>Map #1</sup>

Location Bard, Laguna Dam, Winterhaven

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1		1		2	1			

Species

Atomosia melanopogon Hermann, VIII

Cophura dammersi Wilcox, IX

Diognites contortus Bromley, VIII

Efferia pernicis Coquillett, IV

Laphystia howlandi Wilcox, VI



County Imperial #3Location ~~Patuxtent~~ Glamis

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		3	8	2	3	1		2		1	1

## Species

Ablautus flavipes Coquillett, IIIAblautus minus Osten Sacken, IVCophura getzendaneri Wilcox, III, XI, XIIEfferia albibarbis (Macquart), IV, V, VIEfferia benedicti (Bromley), VIEfferia candida Coquillett, IV, V, VIEfferia deserti Wilcox, IVEfferia pernicios Coquillett, IVEfferia tricellus (Bromley), IXEfferia yuma Wilcox, IIILestomyia sp. 1, IVProctacanthella leucopogon (Williston), IXProctacanthus coquilletti Hine, IVSaropogon mohawki Wilcox, VIISaropogon semiustus Coquillett, IV

County Imperial #4

Location Gordons Well (between Holtville and Winterhaven) Gray's Well

### Seasonal Distribution of Collecting

[illegible]

## Species

*Cophura fisheri* Wilcox, X

*Itolia timberlakei* Wilcox, VI

*Proctacanthus coquilletti* Hine, IV, VI

*Triorla interrupta* (Macquart), VII



County Imperial #5Location Mt. Signal

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		2	2						1	1	

## Species

Ablautus flavipes Coquillett, IIICophura getzendaneri Wilcox, XIEfferia albibarbis (Macquart), IIIEfferia azteci Wilcox, XEfferia candida Coquillett, IVCepriocerus brevis Martin, IV

County Imperial #6

Location Ocotillo (Coyote Wells, Coyote Mts., Mt. Springs)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	3				1				

Species

Efferia caliente Wilcox, IV

Efferia producta (Hine), VI

Lestomyia sp. 3, III

Ospricerus brevis Martin, IV

Saropogon semiustus Coquillett, IV

Wilcoxia martinorum Wilcox, VIII

County Imperial #7Location Ogilby

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1	3				3			

## Species

Efferia ehrenbergi Wilcox, V, IVHaplopogon dicksoni Wilcox, VOmiablautilus tolandi Wilcox, VSaropogon mohawki Wilcox, IXScleropogon duncani (Bramley), IXStenopogon boharti Bramley, IX

County Imperial #8Location Palo Verde

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			7	1		7	4	2	2		

## Species

Ablautus flavipes Coquillett, IV  
Atomosia melanopogon Hermann, VII  
Atomosiella antennata (Banks), VII  
Cerotainiops wilcoxi Pritchard, VII  
Efferia davisii Wilcox, X  
Efferia candida Coquillett, IX  
Efferia deserti Wilcox, IV  
Efferia ehrenbergi Wilcox, IV  
Efferia perniciosus Coquillett, VIII, IX  
Hodophylax basingeri Pritchard, X  
Itolia atripes Wilcox, VIII  
Laphystia howlandi Wilcox, VII  
Mallophora fautricoides Curran, VII  
Ospricerus brevis Martin, IV, V  
Prolepsis tristis (Walker), VIII  
Saropogon mohawki Wilcox, VII, VIII  
Saropogon semiustus Coquillett, IV  
Scleropogon duncani (Bramley), IV  
Stenopogon boharti Bramley, IV  
Tricloria interrupta (Macquart), VII



County Imperial #9Location Salton Sea (East side, Hot Mineral Spa, Pot Holes)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1	1	1								

## Species

Efferia coquilletti (Hine), IIILaphystia duncani Wilcox, IVCophura getzendaneri Wilcox, II

County Imperial #10

Location Salton Sea (West side, Fish Springs, Kane Springs, 10 + mi. S. Oasis, San Felipe Crk,

Seasonal Distribution of Collecting Truckhaven).

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	4	6	1	1	1	1	1	1	1	1	

Species

- Cerotainops wilcoxi Pritchard, VI
- Cophura dammersi Wilcox, X
- Cophura getzendaneri Wilcox, II, XI
- Efferia caliente Wilcox, III
- Efferia candida Coquillett, IV, VIII, IX
- Efferia deserti Wilcox, III, IV
- Efferia yuma wilcox, III, IV
- Megaphorus frustra flavida (Cole), VII
- Ospricerus brevis Martin, III
- Saropogon mohawki Wilcox, V
- Saropogon semiustus Coquillett, IV
- Nannocyrtopogon lestoniformis Wilcox & Martin, IV
- Zabrops tagax tagax (Williston), IV

County Inyo #1Location Antelope Springs (Dasp Springs)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				1	6	10 11	3 4	1			

## Species

Asilus astutus Williston, VI, VIIAsilus formosus Hine, VIICerotainiops wilcoxi Pritchard, VII, VIIIDioctria vera Back, VI, VIIEfferia basingeri Wilcox, VIII, IXEfferia pernicious Coquillett, VIIHeteropogon martini Wilcox, VEfferia tucsoni Wilcox, VIII, VIIIHolopogon seniculus Loew, VIMachimus paropus (Walker), VIIMegaphorus frustraflavida (Cole), VIIPolacantha composita (Hine), VIIPromachus aldrichii Hine, VI, VII, VIIIPromachus princeps Williston, VIStenopogon nigrifrons Coquillett, VIIStenopogon tolandi Wilcox, VI, VII

nty Inyo #2

-221-

ation Argus Mts. (Darwin, Falls).

sonal Distribution of Collecting

Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			3	2	1					

cies

*Efferia benedicti* (Bromley), VI

*Efferia cana* (Hine), VI

*Heteropogon martini* Wilcox, V

*Megaphorus frustra flavida* (Cole), VI, VII

*Stenopogon engelhardti* Bromley, V

*Stenopogon tolandi* Wilcox, V



County Inyo #3Location Death Valley (Saratoga Springs)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1	1	5	2	1					1	

## Species

Ablautus coachellus Wilcox, IIAblautus flavipes Coquillett, VEfferia arida (Williston), IVEfferia coquilletti (Hine), IVEfferia candida Coquillett, IVEfferia pernicious Coquillett, IVEucyrtopogon n. sp., IIIFurcilla N. sp., VProctacanthus coquilletti Hine, IVStenopogon boharti Bromley, VIWilcoxia martinorum Wilcox, XI

County Inyo #4Location Inyo Mountains

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				2							

## Species

Ablautus basini Wilcox, VAblautus californicus Wilcox, V

County Inyo #5

Location Little Lake (Pine Cyn.) Salaberry Pass

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			2	2	1	2					

Species

Ablautus californicus Wilcox, IV

Bohartia isabella Adiscoemarto & Wood, V

Cerotainlops amus Pritchard, V

Efferia candida Coquillett, VII

Megaphorus frustra flavida (Cole), VII

Metapogon carinatus Wilcox, IV

~~Metapogon coquilletti Wilcox, IV~~

County Inyo #6Location Olancha (Cartago)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				5			1				

## Species

Ablautus coquilletti Wilcox, VHeteropogon davisi Wilcox, VIIILestomyia fraudigera Williston, VNannocyrtopogon inyo Wilcox & Martin, VNeomachtherus californicus (Hine), VStenopogon tolandi Wilcox, V



county Inyo #7  
location Panamint Mts., Vly. (Ballarat)

ase 1 Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			3	4	1	4					

Species

Atomosiella antennata (Banks), VII

Cophura dora Pritchard, V

Cophura hesperis Pritchard, V

Efferia coquillettii (Hine), V

Efferia deserti Wilcox, IV

Lestomyia sp. 1, IV

Metadipteria resplendens (Loew), V

Nannocyrtopogon tolandi Wilcox & Martin, VII

Polacantha composita (Hine), VII

Proctacanthus coquillettii Hine, IV

Promachus aldrichii Hine, VI

Willistonina bilineata nigrofemorata Wilcox, VII

County Inyo #8Location Short Canyon

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			3								

## Species

Lestomyia fraudigera Williston, IVLestomyia sp. 4, IVNannocyrtopogon inyoii Wilcox & Martin, IV



County Inyo #10Location Westgard Pass

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				1	4	4	5	2			

## Species

Backomyia sp., IXBohartia isabella Adigocemarto & Wood, VICyrtopogon sudator Osten Sacken, VIIDioctria pusio Osten Sacken, VIEfferia candida Coquillett, VIIEfferia deserti Wilcox, VHolopogon seniculus Loew, VI~~Leptogaster arboreola Martin, VII~~Leptogaster n. sp., VIIIMegaphorus frustra (Pritchard), VIIIMegaphorus frustra brunnea (Cole), VIIIOspriocerus vallensis Martin, VIIIPromachus aldrichii Hine, VIII, IXStenopogon inquinatus Loew, VI



County Inyo #11Location White Mountains

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					2	6	2				

## Species

Cyrtopogon curtistylus Curran, VICyrtopogon montanus Loew, VIIDioctria henschawi Johnson, VIILeptogaster arborcola Martin, VIINeomovtherus californicus (Hine), VIIErolatiferceps n. sp., VIIIScleropogon neglectus (Bramley), VIIIStenopogon engelhardti Bramley, VI, VIIStenopogon utahensis Bramley, VIIStenopogon inquinatus Loew, VI

County Mono #11

Location White Mountains

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					11	10	3		1		

Species

Cyrtopogon curtistylus Curran, VI, VII, VIII

Cyrtopogon dasyllis Williston, VII

Cyrtopogon evidens Osten Sacken, VI

Cyrtopogon montanus Loew, VI, VII

Cyrtopogon sudator Osten Sacken, VI, VII

Eucyrtopogon incompletus Adiscesarto, VI, VII, VIII

Holopogon stellatus Martin, VI

Laphria felis Osten Sacken, VI

Mallophora fautricoides Curran

Nicocles utahensis Banks, VI, X

Omiablaustus nigronotum (Wilcox), VIII

Ospricerus vallensis Martin, VII

Scleropogon neglectus Martin Bramley, VII

Stenopogon engelhardti Bramley, VI, VII

Stenopogon inquinatus Loew, VI, VII

Stenopogon obscuriventris Loew, VII

County Kern #1Location Boron

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			2								

## Species

Lestomyia fraudigera Williston, IVLestomyia sp. 4, IV

County Kern #2Location El Paso Mountains

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			2								

## Species

Lestomyia fraudigera Williston, IVLestomyia sp. 1, IV



County Kern #3

Location Indian Wells (Dove Springs, Willow Springs)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		2	2 1	2							

Species

Ablautus californicus Wilcox, V

Ablautus mimus Osten Sacken, III, V

Ablautus vanduzeei Wilcox, III

Stenopogon martini Bromley, IV

County Kern #4Location Mojave and vicinity

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			5 5		1				1		

## Species

Ablautus basini Wilcox, IVAblautus californicus Wilcox, IVCophura fisheri Wilcox, XEfferia deserti Wilcox, IVEfferia producta (Hine), VILestomyia fraudigera Williston, IVLestomyia sp. 4, IV

County Kern #5Location Randenburg

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				2							

## Species

Efferia deserti Wilcox, VMetapogon tricellus Wilcox, ?Ospricocerus brevis Martin, V

County Kern #6

Location Ricardo (Red Rock Canyon)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1								

Species

Lestomyia sp. 4, IV

Lestomyia fraudigera Williston, V

Ablautus californicus Wilcox, IV

Ablautus coquilletti Wilcox, IV



County Kern #7Station Rogers Dry Lake

## Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1									

Species

Efferia arida (Williston), III

County Kern #8Location Rosamond

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	4	23		1					

## Species

Ablautus californicus Wilcox, IIIAblautus coquillettii Wilcox, IVBohartia isabella Adisoemarto & Wood, IV, VLeptogaster fornicata Martin, VLestomyia fraudigera Williston, IV, VLestomyia sp. 4, IVMegaphorus frustra flavida (Cole), VII



County Kern #10

Location Sand Canyon (Short Canyon, Inyokern)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	5	10	1						

Species

Ablautus basini Wilcox, III, IV

Ablautus californicus Wilcox, III, IV

Ablautus flavipes Coquillett, IV

Ablautus linsleyi Wilcox, II, III, IV

Ablautus minus Osten Sacken, IV

Efferia producta (Hine), VI

Lestomyia fraudigera Williston, III, IV

Lestomyia sp. 4, III, IV

Nannocyrtopogon deserti Wilcox & Martin, IV

Nannocyrtopogon inyo Wilcox & Martin, IV

Stenopogon martini Bromley, IV



County Kern #11

Location Walker Pass (Freeman Canyon)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			4	1	2	3	2	3			

Species

Ablautus californicus Wilcox, IV, V

Ablautus mimus Osten Sacken, IV

Ablautus vanduzeei Wilcox, IV

Heteropogon davisii Wilcox, IX

Hodophylax halli Wilcox, IX

Leptogaster californicus Martin, VII

Lestomyia fraudigera Williston, IV

Machimus callidus (Williston), VII

Parataracticus wyliei Martin, VII

Polacantha composita (Hine), VIII

Saropogon luteus Coquillett, VII

Stenopogon bartonae Wilcox, VIII

Stenopogon bronleyi Wilcox, VI

Stenopogon obscuriventris Loew, VI

County Los Angeles #1

-243-

Station Desert Springs

## Seasonal Distribution of Collecting

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1	2	1						

## Species

Efferia tana (Hine), V, VILestomyia fraudigera Williston, IV, V

County Los Angeles #2Location Lancaster

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			2	4							

Species

Ablautus basini Wilcox, IVAblautus coquillettii Wilcox, VCerotainiops lucyae Martin, IVEfferia candida Coquillett, VMegaphorus frustra flavida (Cole), VStenopogon adelantae Wilcox, V

County Los Angeles #3

Location Littlerock (Pearblossom)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	2	3	3	10	1		1		1		1

Species

Ablautus californicus Wilcox, II, III

Ablautus coquilletti Wilcox, V

Ablautus minus Osten Sacken, II, III, V

Cophura fisheri Wilcox, X

Eucyrtopogon n. sp., XII

Lestomyia fraudigera Williston, IV, V

Lestomyia sp. 4, III, IV, V

Machimus notialis Martin, V

Megaphorus frustra flavida (Cole), VI, VIII

Nannocyrtopogon deserti Wilcox & Martin, V

Nannocyrtopogon oculatus Wilcox & Martin, V

Nannocyrtopogon timberlakei Wilcox & Martin, IV, V

Stenopogon adelantae Wilcox, V

Stenopogon martini Bromley, V



- 246 -

County Los Angeles #4  
Location Llano (Pinon Hills (Juniper Hills))

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	2		3 1	3	1	1					

Species

Ablautus californicus Wilcox, I, II

Ablautus minus Osten Sacken, II

Lestomyia fraudigera Williston, IV

Ablautus basini Wilcox, IV

Ablautus coquilletti Wilcox, IV

Bohartia isabella Adiscoemarto & Wood, V

Nannocyrtopogon timberlakei Wilcox & Martin, V

Polacantha composita (Hine), VII

Efferia cana (Hine), V, VI

County Los Angeles #5

Station Lovejoy (Buttes, Lake)

Seasonal Distribution of Collecting

- 247 -

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1			1		1	1				

Species

*Efferia* ~~xxxx~~ *arida* (Williston), II

*Efferia* *cana* (Hine), V

*Proctacanthus* *nearno* Martin, VII

*Promachus* *aldrichii* Hine, VIII



County Los Angeles #7Location Palmdale

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		3	4	9	2		2				

## Species

Ablautus californicus Wilcox, IIIAblautus minus Osten Sacken, III, IV, VApachekolos scapularis (Bigot), VAeilus astutus Williston, VBohartia isabella Adiscoemarto & WoodCerotainiops lucyae Martin, IVCerotainiops wilcoxi Pritchard, VIIIEfferia candida Coquillett, VIIILestomyia fraudigera Williston, VLestomyia sp. 4, III, IV, VMachimus latapex Martin, VSaropogon luteus Coquillett, VStenopogon adelante Wilcox, V, VIStenopogon martini Branley, IVStenopogon rufibarbis Branley, V



County Los Angeles #8

Location	Piute Butte
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### Seasonal Distribution of Collecting

[illegible]

## Species

Ablautus basini Wilcox, IV, V

*Bohartia isabella* Adiscoemarto & Wood, IV

Nannocyrtopogon deserti Wilcox & Martin, IV

Zabrops tagax tagax Williston, V

County Los Angeles #9Location Red Rock Canyon

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			2								

## Species

Williston,  
Lestomyia fraudigera ~~Eximilis~~, V

~~Efferia xaridax~~ (~~Williston~~) ~~xxx~~

Efferia cana (Hine), V

County Los Angeles #10Location Three Points

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1								

Species

Ablautus mimus Caten Sackon, IV

County Los Angeles # 11Location Valyermo (Big Rock Creek)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1	1	2	2	1				

## Species

Megaphorus frustra flavida (Cole), VIII, VIINeomachtherus californicus (Hine), VISaropogon luteus Coquillett, IVStenopogon californiae Walker, VIIStenopogon engelhardti Bromley, IVEfferia inflata (Hine), V



County Los Angeles #12

Location Wrightwood

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						# 6					

Species

Parataracticus niger Martin, VII

Holopogon atrifrons Cole, VII

Parataracticus wyliei Martin, VII

Saropogon luteus Coquillett, VII

Willistonina bilineata nigrofemorata Wilcox, VII

Laphria trux McAtee, VII

County Riverside #1Location Blythe (Ripley)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			7	2	6	5	4	2	2		
				Ripley		1	3		2	1	

## Species

Abtaurus flavipes Coquillett, IVAtomosia melanopogon Hermann, VI, VII, VIIICerotainiops wilcoxi Pritchard, V, VIICophura fisheri Wilcox, XCophura vandykei Wilcox, IV

(Ripley)

Diognites contortus Bromley, VI, VII, VIII, IXDiognites grossus Bromley,Efferia azteci Wilcox, XEfferia pernicios Coquillett, V, VI, VIII, IXHodophylax basingeri Pritchard,Oepriocerus brevis Martin, IV

X, XI

Proctacabthella leucopogon (Williston), XMegaphorus pulchrus Pritchard,Proctacanthus nearno Martin, VI, VII

VIII

Saropogon albifrons Back, IVProctacanthella tolandi Wlx.,Saropogon mohawki Wilcox, VI

X

Saropogon semiustus Coquillett, IVProlepsis tristis (Walker),Scleropogon duncani (Bromley), IV

VIII

Stenopogon obscuriventris Loew, VIZabrops tagax tagax (Williston), VII, VIII

-256-

County Riverside #2

Location Box <sup>X</sup> Canyon

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			2								

Species

Cophura rozeni Wilcox, IV

Saropogon albifrons Back, IV

County Riverside #3Location Deep Canyon (Carrizo Crk., Coyote Crk., Horsethief Crk.)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	2	4	8	22	16	9	13	5	2	2	1

	<i>Ablautus californicus</i> Wilcox, I, II, III, XII	
Species	<i>Ablautus coquillettii</i> Wilcox, IV, V	
	<i>Ablautus minus</i> Osten Sacken, III	
	<i>Apachekolos scapularis</i> (Bigot), VI, VII	
	<i>Atomosia mucida</i> Osten Sacken, V, VI, VII	
	<i>Bohartia munda</i> Adiscoemarto & Wood, V, VI, VII	
	<i>Cerotainiops abdominalis</i> (Brown), VII	
	<i>Cerotainiops omus</i> Pritchard, IV, V, VI	
	<i>Cerotainiops wilcoxi</i> Pritchard, VIII	
	<i>Cophura fur</i> <del>ex</del> Williston, IV, V	
	<i>Cophura painteri</i> Pritchard, VIII	
	<i>Dioctria pusio</i> Osten Sacken, V	
	<i>Efferia albibarbis</i> (Macquart), IV, V, VI, VII, VIII	
	<i>Efferia benedicti</i> (Bramley), V, VIII	
	<i>Efferia bicolor</i> (Bellardi), VIII	
	<i>Efferia candida</i> Coquillett, V, VI, VIII	
	<i>Efferia peralta</i> Wilcox, VI, VIII	
	<i>Efferia producta</i> (Hine), VI, VII, IX	
	<i>Eudioctria monrovia</i> Wilcox & Martin, III	
	<i>Hodophylax basingeri</i> Pritchard, X	
	<i>Itolia atripes</i> Wilcox, VIII, IX	
	<i>Leptogaster arida</i> Cole, IX, XI	
	<i>Lestomyia fraudigera</i> Williston, IV, V	
	<i>Megachorus fruster</i> Florida (Cole), V, VI, VIII	

continued



County Riverside #3

Location Deep Canyon, continued

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

*Nannocyrtopogon irvinei* Wilcox & Martin, V

Species *Nannocyrtopogon leptomiformis* Wilcox & Martin, IV, V

*Nannocyrtopogon neoculatus* Wilcox & Martin, V

*Omiablaustus nigripes* Wilcox, VI

*Capriocerus brevis* Martin, IV

*Parataracticus niger* Martin, V

*Polacantha composita* (Hine), VI, VII, IX

*Proctacanthella leucopogon* (Williston), VI, VIII

*Promachus aldrichii* Hine, VIII

*Saropogon albifrons* Back, V

*Saropogon mohawki* Wilcox, VI, VII, VIII, IX

*Stenopogon arnaudi* Martin, V

*Stenopogon boharti* Bromley, V, VI, VII

*Stenopogon jubatus* Coquillett, V

*Stenopogon pinyonae* Wilcox, VI

*Stenopogon utahensis* Bromley, V, VI

*Stichopogon fragilis* Back, V, VIII

*Wilcoxia martinorum* Wilcox, I, II, X, XI

County Riverside #4Location Desert Center (Hayfield Road)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1		1					1	

## Species

Ospriocerus brevis Martin, IVSaropogon mohawki Wilcox, IXStenopogon boharti Bromley, VI



County Riverside #6

Location Hopkins Well (20-30 miles E. Desert Center, 20-30 mi. W. Blythe)

### Seasonal Distribution of Collecting

[illegible]

## Species

- Ablautus flavipes Coquillett, IV  
Cophura fisheri Wilcox, X  
Cophura x fur Williston, V  
Cophura getzendaneri Wilcox, II  
Efferia azteci Wilcox, X  
Efferia coquilletti (Hine), III, IV  
Hodophylax basingeri Pritchard, X  
Metapogon punctipennis Coquillett, VIII  
Ospriocerus brevis Martin, III, IV  
Proctacanthella leucopogon(Williston), X  
Proctacanthella tolandi Wilcox, X  
Saropogon semiustus Coquillett, IV  
Scleropogon duncani (Bromley), IV, X  
Stichopogon fragilis Back, V



County Riverside #7Location Indio (Coachella, Mecca, Thermal)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1	3	9	6	4	8	4	2	6	2	1

	<u>Ablautus arnaudi Wilcox, II</u>	<u>Saropogon albifrons Back, IV</u>
Species	<u>Ablautus coachellus Wilcox, X, XI</u>	<u>Saropogon semiustus Coquillett, III, IV</u>
	<u>Aasilus astutus Williston, III, IV</u>	<u>Stanopogon nigrifrons Coquillett, IV, V</u>
	<u>Atomosia melanopogon Hermann, VIII</u>	<u>Triorla interrupta (Macquart), VII</u>
	<u>Cerotainiops wilcoxi Pritchard, V, VII, X</u>	<u>Zabrops tagax tagax Williston, IV</u>
	<u>Cophura fisheri Wilcox, X</u>	
	<u>Cophura getzebdaneri Wilcox, I, XI, XII</u>	
	<u>Cophura vandykei Wilcox, V</u>	
	<u>Diognites contartus Bromley, VI, VII, VIII</u>	
	<u>Efferia azteci Wilcox, X</u>	
	<u>Efferia deserti Wilcox, III, IV</u>	
	<u>Efferia candida Coquillett, IV, V, VI, VIII, IX</u>	
	<u>Efferia pernicious Coquillett, V, VI, VII</u>	
	<u>Itolia timberlakei Wilcox, VIII</u>	
	<u>Laphystia howlandi Wilcox, IV, V</u>	
	<u>Megaphorus prudens Pritchard, VII</u>	
	<u>Megaphorus pulchrus Pritchard, X</u>	
	<u>Ospriocerus brevis Martin, IV</u>	
	<u>Proctacanthella tolandi Wilcox, X</u>	
	<u>Proctacanthus coquilletti Hine, VII</u>	
	<u>Proctacanthus nearno Martin, VI, VII</u>	
	<u>Proctacanthus occidentalis Hine, VII</u>	
	<u>Promachus aldrichii Hine, IX</u>	

County Riverside #8

Station Joshua Tree National Monument (top of Berdoo Cyn)

Seasonal Distribution of Collecting

1	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	2	1	6	3	8	5	4	3	6	3	1

Species

<u>Ablautus californicus Wilcox, I, II, III, IV</u>	
<u>Apachekolos crinita Martin, IX</u>	
<u>Cophura fisheri Wilcox, X</u>	
<u>Cophura getzendaneri Wilcox, XI</u>	
<u>Cophura vanduzeei Wilcox, X, XI</u>	
<u>Efferia benedicti (Bromley), VI, VII, VIII</u>	
<u>Efferia cana (Hine), V, VI</u>	
<u>Efferia producta (Hine), VI, VII, VIII</u>	
<u>Efferia candida Coquillett, VIII</u>	
<u>Hodophylax basingeri Pritchard, IX, X</u>	
<u>Hodophylax halli Wilcox, X</u>	
<u>Lestomyia sp. 1, IV</u>	
<u>Lestomyia fraudigera Williston, IV</u>	
<u>Megaphorus frustrata flava (Cole), VI, VII, VIII, IX</u>	
<u>Metopogon tricellus Wilcox, X, XI, XII, I, II</u>	
<u>Nannocyrtopogon n. sp., IV, V</u>	
<u>Parataracticus niger Martin, IV, VI</u>	
<u>Stenopogon adelantae Wilcox, VI</u>	
<u>Stenopogon nigrifolius Coquillett, IV, V, VI, VII</u>	
<u>Wilcoxia martinorum Wilcox, X</u>	

County Riverside #9

Location Magnesia Canyon

## Sexual Distribution of Collecting

[illegible]

## Species

Cerotainiops wilcoxi Pritchard, VII

*Lasiopogon zonatus* Cole & Wilcox, III

*Efferia producta* (Hine), VII





	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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ecies

*Efferia inflata*. (Hine), V





County Riverside #14Location Palm Springs (Andreas Canyon, Chino Canyon, Tahquitz Canyon)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
7	3	5	9	10	10	5	4	2		6	3

## Species

Ablautus arnaudi Wilcox, IIAblautus californicus Wilcox, IAblautus coquilletti Wilcox, II, III, IVAblautus flavipes Coquillett, IVBackomyia anomalus Wilcox & Martin, ICerotainiops wilcoxi Pritchard, VII, VIII, IXCophura fur Williston, IVCophura getzendaneri Wilcox, I, III, XI, XIICophura tanbarki Wilcox, IV, V, VIIICophura timberlakei Wilcox, XICophura vandykei Wilcox, IVEfferia albibarbis (Macquart), VIIEfferia bicolor (Bellardi), VIIEfferia candida Coquillett, V, VII, VIII, IXEfferia coquilletti (Hine), III, IVEfferia pernicious Coquillett, VIIEfferia producta (Hine), VIEucyrtopogon n. sp., XIHodophylax basingeri Critchard, XI, XIILestomyia fraudigera Williston, I, III, IVMachimus notialis Martin, VIMegaphorus frustra flavida (Cole), V, VI



County Riverside #14Location Palm Springs, continued

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec

Species

Metadioctria rubida (Coquillett), VIMetapogon carinatus Wilcox, IMetapogon tricellus Wilcox, INannocyrtopogon lestomyiformis Wilcox & Martin, IVNeomochtherus californicus (Hine), VIOepriocerus brevis Martin, IVOmbiablautus tolanti Wilcox, VProctacanthella leucopogon (Williston), VIProctacanthella tolanti Wilcox, XIProctacanthus nearno Martin, VSaropogon albifrons Back, VSaropogon mohawki Wilcox, V, VIISaropogon semustus Coquillett, VIScleropogon duncani (Bromley), VStenopogon boharti Bromley, V, VIStenopogon obscuriventris Loew, VIStenopogon utahensis Bromley, V, VIIIWilcoxia martinorum Wilcox, I, XI, XIIWillistonina bilineata nigrofemorata Wilcox, VIZabrops tagax tagax Williston, II, III

County Riverside # 45Location Pinyon Flat

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	7	13	3	2	1	3	1		

## Species

Ablautus californicus Wilcox, IVAblautus coquillettii Wilcox, IIIAblautus minus Osten Sacken, IV, VAndrenosoma fulvicauda (Say), VIICallinicus pictitarsis (Bigot), V, VICerotainiops lucyae Martin, IV, VCophura pollinosa Curran, VII, VIII, IXDioctria pusio Osten Sacken, V, VIEfferia producta (Hine), VHeteropogon tolandi Wilcox, IXHodophylax halli Wilcox, XLestomyia sp. 5, IVLestomyia fraudigera Williston, IV, VLestomyia sabulona Osten Sacken, VMegaphorus frustra flavida (Cole), VINannocyrtopogon irvinei Wilcox & Martin, IV, VNannocyrtopogon lestomyiformis Wilcox & MartinNannocyrtopogon monrovia Wilcox & Martin, VNannocyrtopogon neoculatus Wilcox & Martin, IV, VPromachus sp., IXStenopogon jubatus Coquillett, VStenopogon pinyonae Wilcox, V

County Riverside #16

cation      Rice (south of)

as Distribution of Collecting

[illegible]

ecies

• *Efferia coquilletti* (Hine), IV

. *Proctacanthus coquilletti* Hine, V

County Riverside #17Location Thousand Palms (Doe Palmas, Edom)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1	3	5	1		1			1	1	

## Species

Ablautus arnaudi Wilcox, IIEfferia coquilletti (Hine), III, IVEfferia inflata (Hine), VEfferia candida Coquillett, IVHodophylax basingeri Pritchard, XICepriocerus brevis Martin, III, IVPolacantha composita (Hine), VIIProctacanthella tolanti Wilcox, XSaropogon albifrons Back, IVZabrops tagax tagax (Williston), III, IV



County Riverside #18Location Vidal (Rizz) (South of)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1	1		3					

## Species

~~Efferia pernicio~~ ~~Coquillett~~ ~~(Horn)~~ ~~XX~~Efferia pernicio Coquillett, VIISaropogon mohawki Wilcox, VIIProctacanthus nearno Martin, VII~~Proctacanthus~~ ~~Coquillett~~ ~~(Horn)~~ ~~XX~~

County Riverside # 19Location White Water (Balm Springs R. R. Sta., Snow Wash, Windy Point)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
5	3	5	2	1	5	3	2	5	4	8	5

## Species

<u>Ablautus arnaudi Wilcox, III</u>	<u>Proctacanthus nearno Martin, IX</u>
<u>Ablautus californicus Wilcox, III</u>	<u>Stenopogon lomaie Wilcox, VI</u>
<u>Ablautus coquillettii Wilcox, II, IV, V</u>	<u>Stenopogon californiae Walker, IX</u>
<u>Ablautus flavipes Coquillett, III</u>	<u>Stichopogon fragilis Back, VI</u>
<u>Backomyia anomalus Wilcox &amp; Martin, XI</u>	<u>Wilcoxia martinorum Wilcox, I, XI, XII</u>
<u>Cerotainiops omus Pritchard, VI</u>	<u>Zabrops triclisis triclisis Williston, I</u>
<u>Cerotainiops wilcoxi Pritchard, VIII, IX</u>	<u>III</u>
<u>Cophura getzendaneri Wilcox, I, XI, XII</u>	
<u>Cophura timberlakei Wilcox, XI</u>	
<u>Efferia albibarbis (Macquart), VI, VII</u>	
<u>Efferia candida Coquillett, VI, VII, X</u>	
<u>Efferia coquillettii (Hine), III, IV</u>	
<u>Efferia perniciosus Coquillett, IX</u>	
<u>Eucyrtopogon n. sp., XI, XII</u>	
<u>Itolia timberlakei Wilcox, VIII</u>	
<u>Hodophylax basingeri Pritchard, IX, X, XI</u>	
<u>Leptogaster californicus Martin, X</u>	
<u>Metapogon carinatus Wilcox, I, II, XI, XII</u>	
<u>Metapogon tricellus Wilcox, I, XI, XII</u>	
<u>Proctacanthella tolandi Wilcox, VIII, IX, X</u>	

County San Bernardino #1Location Adelanto ( and 11 miles south)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		3	9	8		1	2	2	1		

## Species

Ablautus californicus Wilcox, III, IVAblautus coquillettii Wilcox, VAblautus mimus Osten Sacken, IV, VAblautus vanduzeei Wilcox, IVCerotainiops lucyae Martin, IV, VCerotainiops wilcoxi Pritchard, VIIIEfferia candida Coquillett, VIIIEfferia deserti Wilcox, VHodophylax basingeri Pritchard, IXHodophylax halli Wilcox, IX, XLeptogaster arida Cole, IVLestomyia fraudigera Williston, IV, VLestomyia sp. 4, III, IV, VMachimus notialis Martin, VNannocyrtopogon timberlakei Wilcox & Martin, IV, VSaropogon hyalinus Coquillett, VIIStenopogon adelantae Wilcox, VZabrops tagax tagax Williston, III, IV

County San Bernardino #2Location Amboy

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			4		1						

## Species

Efferia coquilletti (Hine), IVEfferia deserti Wilcox, IVCophura powersi Wilcox, IVMegaphorus frustra flavida (Cole), VICepriocerus brevis Martin, IV



County San Bernardino #3Location Apple Valley (Hesperia)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			3	4						1	

## Species

Ablautus californicus Wilcox, IVLestomyia fraudigera Williston, IV, VLestomyia sp. 4, IV, VStenopogon adelantae Wilcox, VStenopogon martini Bromley, VCyrtopogon basingeri Wilcox & Martin, XI

County San Bernardino #44

- 279 -

Location Atolia

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						2					

Species

• *Megaphorus frustra flavida* (Cole), VII

*Saropogon luteus* Coquillett, VII

County San Bernardino #5

Location	Baker
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## Seasonal Distribution of Collecting

[illegible]

## Species .

*Efferia coquilletti* (Hine), IV

*Efferia deserti* Wilcox, V

*Lestomyia* sp. 4, IV

*Neomochtherus californicus* (Hine), VII

Saropogon mohawki Wilcox, VI

*Scleropogon duncani* (Bromley(, V

County San Bernardino #6

Location Barstow (Daggett)

### Seasonal Distribution of Collecting

[illegible]

## Species

*Cerotainiops wilcoxi* Pritchard, VI

*Efferia deserti* Wilcox, V

*Megaphorus frustra flavida* (Cole), VI

?Ospriocerus longulus (Loew), VII

Saropogon albifrons Back, VI

*Stenopogon martini* Bromley, IV

Zabrops tagax tagax (Williston), III, IV



County San Bernardino #7Location Cajon Pass (Cajon Junction, Cajon Station)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	6	2	7	89	34				

Species	<u>Ablautus californicus Wilcox, IV</u>	
	<u>Ablautus mimus Osten Sacken, IV, V</u>	
	<u>Andrenosoma fulvicauda (Say), VII</u>	
	<u>Callinicus pictitarsis (Bigot), IV, VI</u>	
	<u>Cerotainiops lucyae Martin, IV</u>	
	<u>Efferia candida Coquillett, VI, VII</u>	<u>Efferia inflata (Hine), VII, VIII</u>
	<u>Heteropogon ludius Coquillett, VI</u>	
	<u>Laphria trux McAtee, VII</u>	
	<u>Lestomyia fraudigera Williston, IV</u>	
	<u>Lestomyia sabulorum (Osten Sacken) III</u>	
	<u>Metadioctria rubida (Coquillett), VIII</u>	
	<u>Nannocyrtopogon monrovia Wilcox &amp; Martin, VI</u>	
	<u>Nannocyrtopogon timberlakei Wilcox &amp; Martin, IV, V</u>	
	<u>Polacantha composita (Hine), VII</u>	
	<u>Saropogon luteus Coquillett, VII</u>	
	<u>Stenopogon antoniae Wilcox, VII</u>	
	<u>Stenopogon californiae Walker, VIII</u>	
	<u>Stenopogon jubatus Coquillett,</u>	
	<u>Stenopogon macswaini Wilcox, VI</u>	
	<u>Stenopogon obscuriventris Loew, VI, VII</u>	
	<u>Stenopogon wilcoxi Bramley, VIII</u>	

nty San Bernardino #8ation Carson's Well

sonal Distribution of Collecting

Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		2								

cies

Cophura fur Williston, IVEfferia coquilletti (Hine), IV

County San Bernardino #9

Location Clark Mountains

as Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
						1		1			

Species

Proechinus aldrichii Hine, VII, IX

County San Bernardino #10Location Cronise (Dry Lake)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1		3	2		1					

## Species

Ablautus californicus Wilcox, II, IVAblautus ~~xxxxxxxxx~~ Wilcox flavipes Coquillett, IVEfferia candida Coquillett, VEfferia deserti Wilcox, IVSaropogon albifrons Back, VIISaropogon luteus Coquillett, V



County San Bernardino <sup>ff</sup> 11

Location Cushenbury Springs (Box S Spring)

### Seasonal Distribution of Collecting

[illegible]

## Species

*Ablautus californicus* Wilcox, IV

*Comantella cristata* (Coquillett), IV

*Efferia tolandi* Wilcox, ~~fig~~ IX

*Hodophylax basingeri* Pritchard, IX

*Sintoria mojavae* Wilcox, IX



County San Bernardino #13

Location Earp

as Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1	1					1		

Species

Efferia Mortensoni Wilcox, X

Efferia coquilletti (Hine); IV

Saropogon albifrons Back, V

County San Bernardino #14Location Essex

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1								

Species

*Ospriocerus brevis* Martin, IV





County San Bernardino #16Location Granite Mountains (Granite Pass)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1	2		1					

## Species

Ablautus californicus Wilcox, IVLestomyia fraudigera Williston, VParataracticus niger Martin, VEfferia producta (Hine), VII

County San Bernardino #17

-292-

Location Harner Dry Lake

as 1 Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1									

Species

*Ocmantella cristata* (Coquillett), III





County San Bernardino #19

Location Ivanpah

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				2					X 3		

Species

Ablautus flavipes Coquillett, V

Ablautus mimus Osten Sacken, V

Metapogon punctipennis Coquillett, X

Sintoria cyanea Wilcox, X

Etferia Lucsoni Wilcox, X

unity San Bernardino XXXX #20

 ation XXXXX Joshua Tree National Monument (see p. 263, Riverside Co.)

## sonal Distribution of Collecting

Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1		4	3	2	2	1	1		1	

cies

~~Opiliones~~ ~~Arachnida~~ ~~Arachnida~~ ~~Arachnida~~ ~~Arachnida~~

Efferia inflata (Hine), V

Efferia producta (Hine), VII

Eudiectria monrovia Wilcox &amp; Martin, V

Hodophylax basingeri Pritchard, IX, XI

Megaphorus frustra flava (Cole), VI

Metapogon tricellus Wilcox, II

Polacantha composita (Hine), VI, VII, VIII

Stenopogon nigritulus Coquillett, V



County San Bernardino #22Location Kramer Hills (Kramer Junction)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	4	3		1					

## Species

Ablautus basini Wilcox, III, IVAblautus coquilletti Wilcox, IV, VCerotainiops wilcoxi Pritchard, VIIEfferia deserti Wilcox, VLestomyia fraudigera Williston, IV, VLestomyia sp. 1, IV



County San Bernardino #23

Location	Landers
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## Seasonal Distribution of Collecting

[illegible]

Species

*Cophura fisheri* Wilcox, X

County San Bernardino #24  
 Location Lucerne Valley (Midway)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1			1			1	2	

## Species

Efferia candida Coquillett, VII

Eucyrtopogon n. sp., XI

Hodophylax basingeri Pritchard, X, XI

Lestomyia sp. 4, IV



nty San Bernardino #26

ation Manix

sonal Distribution of Collecting

Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1								

cies

*Efferia deserti* Wilcox, IV



County San Bernardino #27Location Mojave River at Deep Creek

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	6	2	1	1	3		1	1	

Species

Ablautus californicus Wilcox, IVAblautus minus Osten Sacken, III, IVEfferia candida Coquillett, VIIICyrtopogon basingeri Wilcox & Martin, XILasiopogon drabicola Cole, IVLasiopogon zonatus Cole & Wilcox, IVLestomyia fraudigera Williston, IVLestomyia sp. 4, IVMegaphorus frustra flavida (Cole), VIIINannocyrtopogon timberlakei Wilcox & Martin, VSaropogon luteus Coquillett, VIIStenopogon adelantae Wilcox, VStenopogon californiae Walker, XStenopogon obscuriventris Loew, VIStichopogon trifasciatus (Say), VIII

County San Bernardino #28Location Morongo Valley

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1			1	1			2 1	2	1	

## Species

Ablautus californicus Wilcox, IIBackomyia hannah Wilcox & Martin, XICophura timberlakei Wilcox, ~~xxxxxxx~~ XEfferia pernicios Coquillett, IXEfferia inflata (Hine), VHodophylax basingeri Pritchard, XMegaphorus frustra flavida (Cole), VI

County San Bernardino #29Location Needles

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		4	3		2	1					

## Species

Ablautus flavipes Coquillett, III, IVEfferia coquilletti (Hine), III, IVEfferia deserti Wilcox, III, IVEfferia pernicious Coquillett, VIMetapogon amargosae Wilcox, IIISaropogon mohakki Wilcox, VIIStichopogon fragilis Back, VI









County San Bernardino #33

Location Phelan (Desert Springs, Sheep Creek Canyon)

Annual Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			4	5	54	1		1			

Species

- Ablautus californicus Wilcox, IV, V
- Ablautus minus Osten Sacken, IV, V
- Callinicus pictitarsis (Bigot), V
- Cerotainiops lucyae Martin, V Efferia inflata (Hine), VI
- Cerotainiops wilcoxi Pritchard, VII Hodophylax halli Wilcox, IX
- Lasiopogon zonatus Cole & Wilcox, V
- Lestomyia sp. 4, IV
- Lestomyia fraudigera Williston, IV
- Polacantha composita (Hine), VI
- Saropogon luteus Coquillett, VI
- Stenopogon martini Bromley, VI

County San Bernardino #34

-309-

Location Providence Mountains

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			1	1							

Species

*Efferia arida* (Williston), IV

*Proxymachus princeps* Williston, V



County San Bernardino #35Location Saddleback Butte ( Los Angeles Co.?)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					1						

## Species

Ablautus basini Wilcox, VI

-311-

### Personal Distribution of Collecting

*Efferia arida* (Williston), III, IV

[illegible]

County San Bernardino #37Location Rice

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
									2		

## Species

Cophura fisheri Wilcox, XCophura getzendaneri Wilcox, X

County San Bernardino #38

Location Twentynine Palms

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		0	1	4				2	6	5	

Species

Ablautus californicus Wilcox, III

Ablautus coachellus Wilcox, X, XI

Cophura fisheri Wilcox, X

Cophura getzendaneri Wilcox, X, XI

Cophura tolandi Wilcox, XI

Cophura vandykei Wilcox, X

Efferia candida Coquillett, V

Hodophylax basingeri Pritchard, IX, X

Megaphorus frustra flavida (Cole), IX

Metapogon amargosae Wilcox, X, XI

Omiablautus n. sp., XI

Saropogon albifrons Back, V

Scleropogon duncani (Bromley), V

Stenopogon jubatus Coquillett, V



-314-

County San Bernardino #39

Location Victorville

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			2	4	1	3	1		1		

Species

Ablautus nimus Osten Sacken, IV

Aeilus astutus Williston, V

Lestomyia fraudigera Williston, V

Megaphorus frustra flavida Cole, VII, VIII

Metapogon pictus Cole, X

Myelaphus lobicornis (Osten Sacken), V

Polacantha composita (Hine), VI

Stenopogon martini Bromley, IV

Stichopogon fragilis Back, VII

Stichopogon trifasciatus (Say), V, VII



County San Bernardino #41Location Wheaton Wash

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
				1							

Species

Saropogon albifrons Back, V

-317-

### Seasonal Distribution of Collecting

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
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1

ecies

*Efferia coquilletti* (Hine), IV



County San Bernardino #43Location Yermo

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	2	7	1						

## Species

Ablautus flavipes Coquillett, IVEfferia candida Coquillett, VEfferia deserti Wilcox, IVEfferia pernicious Coquillett, VEfferia yermo Wilcox, IVCyrtopogon evidens Osten Sacken, VLestomyia fraudigera Williston, IVMachimus longipennis Martin, VCsperiocerus brevis Martin, IVSarcopogon semiustus Coquillett, VIScleropogon duncani (Bromley), VStenopogon martini Bromley, IV, VStenopogon mojaviae Wilcox, IV, VZabrops tagax tagax (Williston), III, IV



County San Diego #1Location Agua caliente Springs

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		2	2				2				

Species

Ablautus flavipes Coquillett, IIIEfferia caliente Wilcox, IVEfferia canada Coquillett, VIIILestomyia fraudigera Williston, IIILestomyia sp. 1, IVMegaphorus frustra flava (Cole), VIII

County San Diego #2

Location Borrego (Anza State Park, Clark Valley, Culp Canyon, Palm Canyon)

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
	1	7	20	9	2	1		1	6	3	

Species	<u>Ablautus californicus Wilcox, II, III, IV</u>	<u>Scleropogon duncani (Bromley), IV, V</u>
	<u>Ablautus coquillettii Wilcox, III, IV</u>	<u>Stenopogon adelantae Wilcox, IV</u>
	<u>Ablautus flavipes Coquillett, III, IV</u>	<u>Stenopogon boharti Bromley, X</u>
	<u>Cerotainiops onus Pritchard, IV, V</u>	<u>Stenopogon engelhardti Bromley, IV, V</u>
	<u>Cophura fisheri Wilcox, X</u>	<u>Stenopogon martini Bromley, III, IV</u>
	<u>Cophura fur Williston, IV</u>	<u>Stenopogon obscuriventris Loew, V</u>
	<u>Cophura timberlakei Wilcox, X, XI</u>	<u>Stenopogon utahensis Bromley, IV, V</u>
	<u>Cophura tolandi Wilcox, XI</u>	<u>Zabrops tagax tagax (Williston), III, IV</u>
	<u>Efferia candida Coquillett, IV, V, IX</u>	
	<u>Efferia coquillettii (Hine), IV</u>	
	<u>Efferia davisii Wilcox, X</u>	
	<u>Efferia deserti Wilcox, IV</u>	
	<u>Efferia perniciosus Coquillett, IV, V</u>	
	<u>Hodophylax basingeri Pritchard, X</u>	
	<u>Lestomyia fraudigera Williston, III</u>	
	<u>Megaphorus frustra flavida (Cole), VI, VII</u>	
	<u>Nannocyrtopogon lestomyiformis Wilcox &amp; Martin, IV</u>	
	<u>Opriocerus brevis Martin, III, IV</u>	
	<u>Parataracticus niger Martin, IV</u>	
	<u>Proctacanthella tolandi Wilcox, X, XI</u>	
	<u>Saropogon luteus Coquillett, VI</u>	
	<u>Saropogon mohawki Wilcox, V</u>	
	<u>Saropogon semiustus Coquillett, IV, V</u>	





County San Diego #4

Location      In-Ko-Pah Mountains

### Seasonal Distribution of Collecting

[illegible]

## Species

*Machimus johnsoni* (Hine), IX

Machine Johnson (11/10/79) 21







County San Diego #7

Location Mountain Springs

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
					1	1					

Species

Megaphorus frustra flavida (Cole), VII

Efferia producta (Hine), VI

County San Diego #8

Location Ocotillo

Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		1	2								

Species

~~Stenopogon williamsi~~ ~~Wilcox, IV~~

Stenopogon williamsi Wilcox, IV

Zabrops tagax Tagax (Williston), III, IV

County San Diego #9Location Cocotillo Wells

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
			3								

## Species

Ablautus flavipes Coquillett, IVEfferia deserti Wilcox, IVEfferia caliente Wilcox, IV





County San Diego # 11Location Scissors Crossing (Earthquake Valley, San Felipe Valley, Vallecito Springs)

## Seasonal Distribution of Collecting

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
		2	3	5	2	4		1	1		

## Species

Ablautus californicus Wilcox, III, IVAblautus coquillettii Wilcox, IVBelpharepium sonorensis Papavero & Bernardi, VIIEfferia candida Coquillett, IXEfferia coquillettii (Hine), IIIEudioctria monrovia Wilcox & Martin, VHodophylax basingeri Pritchard, XLestomyia fraudigera Williston, VMegaphorus frustra flavida (Cole), VI, VIINannocyrtopogon lestomyiformis Wilcox & Martin, VSaropogon luteus Coquillett, VIIStenopogon californiae Walker, XStenopogon engelhardtii Bromley, VStenopogon jubatus Coquillett, VIIStenopogon nigrutilus Coquillett, VStenopogon obscuriventris Loew, VI



## APPENDIX ?

## Genera and Species of Asilidae found in the California Desert

Abbreviations: Cal. = Coastal Mts. and Vlys.; C.D. = Colorado

(Sonora) Desert; G.B. = Great Basin; M.D. = Mojave Desert;

S.M. = Sierra Montaine; W.S. = Wide Spread.

Ablautus Loew	Page	Area	Imp.	Inyo	Kern	L.A.	Riv.	S.B.	S.D.
arnaudi Wilcox	107	C.D.						X	
basini Wilcox	107	M.D.	X	X	X	X	X		
californicus Wilcox	108	Cal.	X	X	X	X	X	X	
coachelus Wilcox	108	C.D.	X				X	X	
coquilletti Wilcox	108	Cal.	X	X	X	X	X	X	
flavipes Coquillett	109	Cal.	X		X		X	X	X
linsleyi Wilcox	109	M.D.			X				
minus Osten Sacken	109	Cal.	X		X	X	X	X	
minus squamipes Cole	109	M.D.						X	
vanduzeei Wilcox	110	Cal.			X			X	X
Andrenosoma Rondani									
fulvicauda (Say)	84	W.S.					X	X	
Apachekolos Martin									
crinita Martin	101	C.D.					X		
scapularis (Bigot)	101	Cal.				X	X		X
Asilus Linnaeus									
astutus Williston	35	Cal.	X	X	X	X	X	X	X
formosus Hine ?	36	G.B.	X						
vescus Hine	37	W.S.							
Atomosia Macquart									
melanopogon Hermann	85	W.S.	X				X		
mucida Osten Sacken	86	W.S.					X		
Atomosiella Wilcox									
antennata (Banks)	87	W.S.	X	X					
Backomyia Wilcox & Martin									
anomalous Wilcox & Martin	111	C.D.					X		
hannai Wilcox & Martin	111	M.D.						X	
new species	111	M.D.		X					
new species	111	C.D.					X	X	
Beameromyia Martin	102	Cal.					X		
Bohartia Hull									
isabella Adiscoemarto & Wood	112	M.D.	X	X	X				
martini Adiscoemarto & Wood	112	G.B.							
munda Adiscoemarto & Wood	113	Cal.					X	X	

	Page	Area	Imp.	Inyo	Kern	L.A.	Riv.	S.B.	S.D.
<i>Belpharepium Ronkani</i>									
<i>sonorensis</i> Papavero & Bernardi	102	W.S.	Ø						X
<i>Callinicus</i> Loew									
<i>pictitarsis</i> (Bigot)	114	Cal.					X	X	
<i>pollenius</i> (Cole)	115	S.M.	X						
<i>Cerotainiops</i> Curran									
<i>abdominalis</i> (Brown)	87	W.S.					X		X
<i>lucyae</i> Martin	88	W.S.				X	X	X	X
<i>mcclayi</i> Martin	88	C.D.							X
<i>wilcoxi</i> Pritchard	90	W.S.	X	X		X	X	X	
<i>omus</i> Pritchard	89	W.S.	X	X			X		X
<i>Coleomyia</i> Wilcox & Martin									
<i>crumborum</i> Martin	116	Cal.						X	
<i>Comantella</i> Curran									
<i>cristata</i> (Coquillett)	53	Cal.						X	
<i>Cophura</i> Osten Sacken									
<i>dammersi</i> Wilcox	55	C.D.	X						
<i>dora</i> Pritchard	55	W.S.		X					
<i>fisheri</i> Wilcox	56	M.D.	X		X	X	X	X	X
<i>fur</i> Williston	57	C.D.		X			X	X	X
<i>getzendaneri</i> Wilcox	58	C.D.	X				X	X	
<i>hesperia</i> (Pritchard)	59	W.S.		X					
<i>painteri</i> Pritchard	59	C.D.					X		
<i>pollinosa</i> Curran	60	W.S.					X		
<i>powersi</i> Wilcox	C.D. 59						X	X	
<i>rozeni</i> Wilcox	59	C.D.					X		
<i>tanbarki</i> Wilcox	61	Cal.				X			
<i>timberlakei</i> Wilcox	61	C.D.					X	X	X
<i>tolandii</i> Wilcox	62	M.D.				X	X	X	X
<i>vanduzeei</i> Wilcox	63	Cal.					X		
<i>vandykei</i> Wilcox	63	C.D.					X	X	X
<i>Cyrtopogon</i> Loew									
<i>aldrichi</i> Wilcox & Martin	117	Cal.					X	X	X
<i>basingeri</i> Wilcox & Martin	117	Cal.						X	
<i>callipedilus nigritarsus</i> W. & M.	118	Cal.					X		
<i>cymbalista</i> Osten Sacken	119	S.M.	X						
<i>curtistylus</i> Curran	119	S.M.	X						
<i>dasyllis</i> Williston	120	S.M.	X						
<i>infuscatus</i> Cole	120	S.M.							
<i>vandykei</i> Wilcox & Martin	120	Cal.					X		
<i>evidens</i> Osten Sacken	121	W.S.	X				X	X	
<i>montanus</i> Loew	122	S.M.	Ø	X					



Page Area Imp. Inyo Kern L.A. Riv. S.B.S.D.

## Cyrtopogon Loew cont'd.

nugator Osten Sacken	122 S.M.	X						
sudator Osten Sacken	123 S.M.	X						
rainieri Wilcox & Martin	125 S.M.	X						

## Dicolonus Loew

medium Adiscoemarto & Wood	124 Cal.	X						
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## Dioctria Meigen

henshawi Johnson	125 G.B.	X						
pleuralis Banks	125 Cal.				X			X
pusio Osten Sacken	126 Cal.	X			X			
vera Back	127 W.S.	X			X	X		

## Dioctria Nannodioctria W. &amp; M.

albicornis Wilcox & Martin	128 Cal.						X	
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## Diognites Loew

contortus (Bromley)	64 C.D.	X				X		X
grossus (Bromley)	65 W.S.					X		
pulcher (Back)	66 Cal.					X		

## Efferia Coquillett

albiba <sup>rb</sup> (Macquart)	7 W.S.	X	X	X	X	X	X	X
arida (Williston)	11 M.D.		X	X	X		X	
azteci Wilcox	9 C.D.	X				X		
basingeri Wilcox	12 G.B.		X					
benedicti (Bromley)	16 W.S.	X	X			X		
bicolor (Bellardi)	7 W.S.	X		X	X	X	X	X
caliente Wilcox	14 C.D.	X				X	X	X
cana (Hine)	16 W.S.			X	X	X		
candida Coquillett	9 C.D.	X	X		X	X	X	X
coquilletti (Hine)	18 C.D.	X	X	X	X	X	X	X
davisi Wilcox	9 C.D.	X						X
deserti Wilcox	18 C.D.	X		X		X	X	X
ehrenbergi Wilcox	18 C.D.	X						
halli Wilcox	10 Cal.						X	X
inflata (Hine)	18 Cal.					X	X	
mortensoni Wilcox	C.D. 15					X	X	
new species	6 M.D.					X	X	
peralta Wilcox	8 Cal.	X				X	X	X
perniciis Coquillett	10 C.D.	X	X			X	X	X
producta (Hine)	20 Cal.	X		X	X	X	X	X
setigera Wilcox	21 Cal.							X
tolandi Wilcox	12 M.D.		X	X			X	
tucsoni Wilcox	21 W.S.		X				X	
tricellus (Bromley)	10 C.D.	X						
vertebrata (Bromley)	Cal. 8		X				X	
vermo Wilcox	19 M.D.						X	
yuma Wilcox	20 C.D.	X						

## Eucyrtopogon Curran

Page Area Imp. Inyo Kern L.A. Riv. S.B. S.D.

incompletus Adisoemarto  
 nebulo (Osten Sacken)  
 new species

131 S.M. X  
 131 S.M. X X  
 132 M.D. X X X X

## Eudioctria Wilcox &amp; Martin

dissimilis Adisoemarto & Wood  
 doanei (Melander)  
 monrovia Wilcox & Martin

129 Cal. X  
 129 Cal. X  
 130 Cal. X X X X

## Furcilla Martin

new species

22 G.B. X

## Haplopogon Engel

dicksoni Wilcox

125 C.D. X

## Heteropogon Loew

cirrhatu (Osten Sacken)  
 davisii Wilcox  
 fisheri Wilcox  
 ludius (Coquillett)  
 martini Wilcox  
 rubidus (Coquillett)  
 senilis (Bigot)  
 tolandi Wilcox

133 W.S. X X  
 133 M.D. X X  
 134 Cal. X  
 134 Cal. X X X  
 134 G.B. X  
 135 ? X  
 135 Cal. X X  
 135 Cal. X X

## Hodophylax James

basingeri Pritchard  
 halli Wilcox

67 W.S. X X X X  
 68 M.D. X X X X

## Holopogon Loew

atrifrons Cole  
 crinitus Martin  
 seniculus Loew  
 stellatus Martin

136 Cal. X X X  
 136 Cal. X X  
 137 G.B. X  
 137 W.S. X X X

## Itolia Wilcox

atripes Wilcox  
 timberlakei Wilcox

138 C.D. X X  
 139 C.D. X X

Laphria ~~similis~~ Meigen

aimatis McAtee  
 felis Osten Sacken  
 sackeni (Banks)  
 trux McAtee

91 Cal. X  
 92 Cal. X  
 93 Cal. X  
 95 Cal. X X

Laphystia Loew	Page	Area	Imp.	Inyo	Kern	L.A.	Riv.	S.B.	S.D.
duncani Wilcox	98	C.D.	X				X		
howlandi Wilcox	98	C.D.	X				X		
martini Wilcox	98	C.D.	X				X		X
tolandi Wilcox	99	G.B.		X					
utahensis Wilcox	99	G.B.					X		
Lasiopogon Loew									
drabicola Cole	139	Cal.				X	D	X	X
new species	139	Cal.						X	
zonatus Cole & Wilcox	139	Cal.				X	X	X	
Leptogaster Meigen									
arborcola Martin	103	W.S.	X						
arida Cole	103	W.S.						X	
californica Martin	104	Cal.			X		X		
fornicata Martin	105	W.S.			X				
new species	105	G.B.	X						
Lestomyia Williston									
fraudigera Williston	73	Cal.		X	X	X	X	X	X
sabulosa (Osten Sacken)	72	Cal.					X	X	
species 1	69	C.D.	X	X	X		X	X	X
species 2	69	Cal.							X
species 3	69	C.D.	X						
species 4	70	M.D.		X	X	X		X	
species 5	71	Cal.					X		X
Machimus Loew									
callidus (Williston)	38	W.S.		X					
coleus Martin	39	Cal.							
johnsoni (Hine)	39	W.S.						?	?
latapex Martin	40	Cal.				X			X
latapex alticollis Martin	41	Cal.				X		X	
longipennis Martin	42	Cal.						X	
new species	38	Cal.						?	
notialis Martin	43	W.S.		X		X	X	X	X
paropus (Walker)	45	W.S.		X	X				
occidentalis (Hine)	44	W.S.		X		X	X		
Mallophora Macquart									
fautricoides Curran	22	Cal.	X	D	X				X

## Megaphorus Bigot

Page Area Imp. Inyo Kern L.A. Riv. S.B. S.D.

Frustra (Pritchard)	23	W.S.		X						
frustra flavida (Cole)	23	Cal.	X	X	X	X	X	X	X	
frustra brunnea (Cole)	23	W.S.		X						
prudens (Pritchard)	24	W.S.					X			
pulchrus (Pritchard)	24	W.S.					X	X	X	

## Metadioctria Wilcox &amp; Martin

parvula (Coquillett)	141	Cal.				X				
resplendens (Loew)	141	Cal.		X						
rubida (Coquillett)	142	Cal.					X	X	X	

## Metapogon Coquillett

amargosae Wilcox	143	G.B.					X	X		
carinatus Wilcox	143	M.D.		X			X			
gilvipes Coquillett	144	Cal.				X			X	
pictus Cole	144	Cal.					X	X	X	
punctipennis Coquillett	145	W.S.					X	X		
tricellus Wilcox	145	M.D.		X	X		X	X		

## Myelaphus Bigot

lobicornis (Osten Sacken)	146	W.S.							X	
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## Nannocyrtopogon Wilcox &amp; Martin

deserti W. & M.	147	M.D.		X	X					
inyoi W. & M.	147	M.D.		X	X					
irvinei W. & M.	148	Cal.				X	X			
lestomyiformis W. & M.	148	Cal.	X				X		X	
mingusi W. & M.	151a	G.B.						X		
monrovia W. & M.	149	Cal.				X	X	X		
neoculatus W. & M.	149	Cal.					X			
new species	151	M.D.					X	X		
nigrocolor (Coquillett)	150	Cal.				X	X		X	
oculatus W. & M.	150	M.D.			X	X				
tolandi W. & M.	151	M.D.		X						
timberlakei W. & M.	151	M.D.				X		X		
<i>Neoitamus Osten Sacken</i> <i>terminalis (Hine)</i>	So.	Cal.					X	X	X	
Neomochtherus Osten Sacken										

californicus (Hine)	46	Cal.		X		X	X	X		
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## Nicocles Jaennicke

argentatus Coquillett	74	Cal.				X				
utahensis Banks	76	G.B.		X						



Ommatius Wiedemann	Page	Area	Imp.	Inyo	Kern	L.A.	Riv.	S.B.	S.D.
maculatus Banks	106	G.B.							?
Ominablautus Pritchard									
nigripes Wilcox	77	C.D.					X		
new species	77	C.D.	X					X	
tolandi Wilcox	77	C.D.					X		
Ospriocerus Loew									
abdominalis (Say)	152	W.S.	X					X	
brevis Martin	152	C.D.	X		X		X	X	X
longulus (Loew)	153	W.S.						X	
vallensis Martin	152	G.B.		X					
Parataracticus Cole									
niger Martin	78	Cal.					X	X	X
wylliei Martin	79	Cal.		X	X			X	
Pogonosoma Rondani									
hesperium Martin	97	Cal.							X
Polacantha Martin									
composita (Hine)	51	Cal.		X	X	X	X	X	X
Pritchardomyia Wilcox	153a	Cal.			X		X		
Proctacanthella Bromley									
leucopogon (Williston)	25	W.S.	X				X	X	X
tolandi Wilcox	26	C.D.					X	X	X
Proctacanthus Macquart									
coquilletti Hine	27	Cal.	X	X			X	X	
milbertii Macquart ?	27	W.S.							
nearno Martin	28	W.S.		X	X	X	X	X	X
occidentalis Hine	29	Cal.			X		X		
Prolatforceps Martin									
new species	52	S.M.		X					
Prolepsis Walker									
tristis (Walker)	154	W.S.	X				X		
Promachus Loew									
aldrichii Hine	30	G.B.		X	X	X	X	X	X
new species	32	Cal.					X		X
princeps Williston	31	Cal.		X				X	

## Regasilus Curran

Page Area Imp. Inyo Kern L.A. Riv. S.B. S.D.

blantonii Bromley

33 G.B.

## Saropogon Loew

albifrons Back  
 hyalinus Coquillett  
 luteus Coquillett  
 mohawki Wilcox  
 semiusatus Coquillett

80 C.D. X X  
 81 Cal. X X X  
 81 Cal. X X X  
 82 C.D. X X X  
 83 C.D. X X X

## Scleropogon Loew

duncani (Bromley)  
 neglectus (Bromley)  
 picticornis Loew

155 W.S. X X X  
 155 G.B. X  
 155 W.S. ?

## Sintoria Hull

cyanea Wilcox  
 mojaveae Wilcox

156 W.S. X  
 156 M.D. X

## Stenopogon Loew

adelantae Wilcox  
 albibasis Bigot  
 antoniae Wilcox  
 arnaudi Martin  
 bartoniae Wilcox  
 blaisdelli Wilcox  
 boharti Bromley  
 brevisusculus Loew  
 bromleyi Wilcox  
 californiae (Walker)  
 engelhardtii Bromley  
 inquinatus Loew  
 jubatus (Coquillett)  
 lomae Wilcox  
 macswaini Wilcox  
 martini Bromley  
 mojaveae Wilcox  
 nigritulus Coquillett  
 obscuriventris Loew  
 pinyonae Wilcox  
 rufibarbis Bromley  
 tolandi Wilcox  
 utahensis Bromley  
 wilcoxi Bromley  
 williamsi Wilcox

157 M.D. X X X  
 157 Cal. ?  
 158 Cal. X  
 158 Cal. X  
 158 Cal. X  
 159 Cal. X  
 159 C.D. X X X  
 160 Cal. X  
 160 Cal. X X X  
 161 Cal. X X X  
 162 W.S. X  
 162 Cal. X X X  
 163 Cal. X  
 163 Cal. X  
 164 W.S. D X X X  
 165 M.D. X X  
 165 Cal. X X X  
 166 Cal. X X X  
 167 C.D. X  
 167 W.S. X X X  
 168 M.D. X  
 169 C.D. X  
 170 Cal. X X X  
 170 Cal. X X

## Stichopogon Loew

fragilis Back ?  
 trifasciatus (Say)

171 W.S. X X X  
 171 W.S. X X X

Triorla Parks	Page Area Imp.InyoKernL.A.Riv.S.B.S.D.
interrupta (Macquart)	33 W.S. X X X X
Wilcoxia James	
martinorum Wilcox	173 C.D. X X X
Willistonina Back	
bilineata nigrofemorata Wilcox	174 Cal. X X X X
Zabrops Hull	
tagax tagax(Williston)	100 C.D. X X X X

